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BY

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CAPTAIN 83^d LIGHT INFANTRY

PROFESSOR OF TACTICS, ROYAL MILITARY COLLEGE, SANDHURST

‘Young men, on joining their regiments, have all the temptations in the world to pleasure, none to study; and they some day find themselves compromised on service from want of knowledge, not of talent’—SIR C. NAPIER



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THE following pages formed originally a course of lectures delivered to Sub-Lieutenants studying at Sandhurst. They have been arranged (by request) for the convenience of those who, by recent regulations, have to pass an examination in the Sandhurst course without a previous residence at the College.

C. CLERY,

Captain 32nd Light Infantry.

SANDHURST : *December 15, 1874.*



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MINOR TACTICS.

CHAPTER I.

INFORMATION AND SECURITY.

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THE issue to which all military operations tend, is a battle. Organisation, equipment, drill, all aim at the one result of making the soldier as efficient as possible, to take his place in the fight when the time comes. In the battle, therefore, and its results, the solution of what is involved is looked for.

To engage an enemy with the best chances of success, superiority, moral or physical, at the point of contact is essential. Moral superiority is derivable from stricter discipline, a better cause, previous successes, or similar influences. Its elements should be established and carefully cultivated in time of peace, while success will confirm and strengthen them in time of war.

Physical superiority is dependent on numbers, training, and weapons; but it is only decisive when it is fully developed, that is, when there is full co-operation of the whole force when the enemy is met with. Hence the development of physical superiority depends on the power of massing numbers on a certain point at a certain time. This capacity of a force for being massed is termed its 'mobility.'

'Mobility' is in part dependent on the commander, in part on the men. The power of marching without impairing

efficiency, is the soldier's part—that of feeding and clothing his men, the commander's. Clearly, therefore, the question of supplies must be a constant source of anxiety to the latter.

An army, within certain limits as regards numbers, may in moving through a fertile country, if it be friendly, obtain from day to day the supplies necessary for its wants ; but should it remain stationary, then what the country can afford will be quickly exhausted. In this case, and should the force exceed the limits supposed, supplies must be brought to it from a distance.

But this mode of supply necessarily entails large transport. In European warfare, railways now afford immense facilities in this way, but in countries where railways are not available, transport is both costly and full of difficulties. Our own expeditions in Abyssinia, the Red River, and Ashantee are striking instances.

The transport train of a large army requires a number of parallel or converging roads if the different divisions of the army are to march on the same front ; but this number of roads is not always obtainable. Hence it follows that the difficulty of supplying a large army when concentrated is very great, and also that, for the sake of supplies, it is desirable that the different parts of the force be extended over a comparatively wide area.

But we have seen that physical superiority is an essential element to success, and that it is dependent on concentration. Therefore, if it be necessary to extend a force for facility of supply, careful dispositions should be made to ensure its timely concentration on the eve of collision with the enemy.

But the power of simple concentration is not enough ; its rapidity must be such as to forestall the enemy. This is obtainable by (1) superior mobility ; (2) getting the start of the enemy ; (3) delaying his movements.

In European armies, mobility should, under ordinary circumstances, be about equal. On this head therefore the

advantage will lie with the side able to make the best use of it.

To get the start of the enemy implies early and accurate information of his movements and close concealment of one's own. If it be intended to take the initiative, such information will afford the commander a safe basis on which to form his plans. If it be intended to surrender the initiative to the enemy, then the force and direction of the blow being known, the best means for parrying it may be adopted.

In either case, other things being equal, ample and accurate information about the enemy is the best guarantee for success, and an absolute essential to security.

CHAPTER II.

OUTPOSTS.

IN treating of the manner in which an army secures itself from surprise and obtains information about the enemy, it will be convenient to separate the subject under the two heads of 'Outposts,' and 'Reconnoitring.' The first will embrace all measures necessary for the immediate safety of a force when halted; the second, those for obtaining information of the enemy while still at a distance.

Dealing first with outposts it may be said that their importance can scarcely be exaggerated. No force encamped in the field can be considered for a moment safe without them. This fact is so well established by actual experience that it may seem superfluous to lay much stress on it. Yet it is in its neglect that we are occasionally reminded of its importance, for when observed no disaster occurs to draw special attention to its value. But instances of its neglect abound in all wars, and that of 1870-1 in France was more than usually fruitful of them.

It was a maxim of the great Frederick that it was pardonable to be defeated, but never to be surprised. And yet Frederick himself, through neglect of his outposts, was the victim of a surprise and serious defeat at Hohenkirch. The famous Light Division whose outpost operations beyond the Coa in 1810 must ever remain a model of such work, was itself a few months afterwards surprised at Alemquer under circumstances that admitted of no excuse and nearly led to a disaster. The surprise and rout of Marmont's corps at Laon and de Faily at Beaumont are but additional instances of what neglect of outposts may occasion.

Outposts may be defined as detachments thrown out by a force when halted, for its immediate protection from surprise. Its duties therefore are twofold, observation and resistance; observation, to give timely warning of danger to the main body, resistance, to afford it time to make dispositions for defence. Thus two points are gained of primary importance, security and rest. The latter only cedes in importance to the former, for without a due proportion of rest the physique of the best troops gets rapidly deteriorated.

The manner of attaining these objects may be summed up as follows :

1. All approaches open to the enemy should be carefully observed.
2. His movements should be watched, and instantly reported on.
3. His advance, when attempted, should be delayed to the utmost.

To execute this is the business of the outposts.

Position.—The position of the outposts as regards the main body should be such as to cover its front and overlap its flanks. The general front should run along some well defined natural feature, such as a commanding ridge, the edge of a wood, or the line of a river. It will thus obtain a position for resistance and an extended view for observation.

Composition.—The composition of the outposts generally comprises all three arms, but their proportion must depend on the nature of the country and the proximity or distance of the enemy. In an open country, when the enemy is at a distance, and during the daytime, the cavalry will perform the chief part of the work. In a close or intersected country, at night, and when the enemy is at hand, it is on the infantry that it will mainly fall. Artillery is only used in special cases, when particular points, such as defiles, are to be guarded. The co-operation of cavalry and infantry is essential to the proper performance of outpost duty. The cavalry, pushing well to the front, procure the infantry rest

and secure them from surprise ; the infantry in turn cover the retreat of the cavalry and enable them to rally if driven in by the enemy.

Strength.—The strength of the outposts should be strictly limited to the smallest number that will afford security. There is no duty more harassing or requiring more vigilance, and a waste of force both impairs efficiency and tends to slackness in the performance of the work. The nature of the country, and the proximity and character of the enemy, must mainly determine the numbers. If the country affords defensible positions, then this will admit of fewer numbers being used. If the enemy is at hand, and known to be enterprising, then extreme vigilance against surprise and sufficient force for stout resistance becomes more than ever requisite. It was a saying of Wellington's, that when Massena was opposed to him he did not know what it was to be at rest. Thus it is impossible to lay down anything like a rule for the strength of the outposts, as the actual conditions on the spot can alone determine it.

Distance between main body and its outposts.—The distance that should intervene between the main body and the outposts is also subject to considerable variation. Two considerations must mainly regulate it. First, the latter should be sufficiently distant not to be driven in on the main body before it has had time to form up. Secondly, they must not be so far in advance as to risk being cut off, as in this way the safety of the army would be equally endangered. The nature of the country will here again exercise considerable influence. It may be necessary to push them forward to get an extensive view over an open country beyond. Or if the country is not open and offers obstacles to an advance, then they may be kept closer to the main body, as their power of delaying the enemy will be increased.

The outposts are subdivided into three or four parts, viz. :

- | | |
|--------------------------|------------------------------|
| 1. Sentries or vedettes. | 3. Supports (when required). |
| 2. Picquets. | 4. Reserves. |

The whole should be under the command of an officer specially appointed for the duty as 'commander of the outposts.' When the line of front to be guarded is considerable there would be an officer of this kind for about every three miles.

The Commander of the Outposts will receive his instructions direct from superior authority. The general front to be occupied will be pointed out to him, and it will then be his business to regulate the distribution of the different parts. He will carefully examine the ground before the detachments move up, fix the general line for the sentries, define the limits for each picquet, and finally select positions for the supports and reserves. He will pay particular attention to his flanks being secure, and when they do not rest on natural obstacles, they should either be drawn back or supported by detachments. The roads and paths leading from the enemy's direction form important considerations in the disposition of the outposts.

The extent of front to be guarded by each picquet should be kept within limits, no matter how open the country that is being observed. Taking the average distance allowed between a picquet and its sentries, the front of the latter should not exceed 800 to 1,000 yards for infantry, and about double that for cavalry.

The Commander of the Outposts will give clear and detailed instructions to the subordinate commanders on the following heads.

The general line of front of the whole.

The exact ground to be occupied by each.

What is known of the position and probable movements of the enemy.

The directions in which it is most advisable to patrol.

The general measures to be taken in case of attack.

The extent to which any post should be fortified.

How flags of truce, deserters, &c., are to be received.

The nature and frequency of reports.

When the picquets and sentries have been posted, he should inspect the whole, and alter or modify what he considers faulty.

If changes are to take place in any of the positions at night, the officers concerned should have timely notice, so as to examine while there is light the new ground they will have to occupy. But such changes should not take place until darkness has set in.

The Commander of the Outposts will transmit at once any information obtained that is likely to be of use to the officer commanding the main body. But such information should be carefully sifted, and what is reliable clearly separated from what is uncertain.

SENTRIES.

In marching his picquet to the ground the officer commanding it should take the necessary precautions for safety. It will be therefore advisable to form it as an advanced guard. He will carefully observe the country he moves through, examine where it affords positions for defence, and note any points advantageous to fall back on. On arriving on the ground allotted to his picquet he will detach a party to his front as a patrol or in skirmishing order, in advance of the line his sentries are to occupy, and under cover of this advanced party he will quickly select the positions for his sentries. These first positions should not be considered definite, but be subsequently corrected where found to require it.

Sentries are posted double, and form a connected chain, linking on with those of adjoining picquets.

The principal points to be provided for in the posting of sentries are :—

- An extensive view to the front and flanks.
- Concealment from the enemy.
- Connection with the neighbouring sentries.
- Communication with the picquet.
- Clear view of all approaches.
- No ground between two sentries to be unseen by both.
- Advantages of ground to be utilised to economise sentries.

Points to be impressed on a sentry :—

The position of the picquet.

The direction of the enemy.

The position of neighbouring sentries.

The position of the examining guard.

The distance intervening between sentries must entirely depend on the nature of the country, the only fixed rule being that no more should be employed than are required for observing all the approaches.

The object of a sentry being to give timely warning of danger, he should see without being seen and be safe from surprise. A rapidly constructed shelter trench will ensure the former ; if greatly exposed or posted in a defile, some obstacles erected in his front will provide for the latter.

If a wood comes within the line of outposts, sentries should be placed along its further edge. If the wood is too extensive for this, then it should if possible be left unoccupied and the sentries withdrawn to a safe distance from the near side of it. If, however, it approaches so close to the position that the chain of sentries must be carried through it, then they should be placed along a high road, a stream, or a valley, as such positions will enable them to get a better view.

If a sentry detects indications of the enemy's approach, he should communicate with the picquet by some preconcerted signal ; but if satisfied that the enemy is moving to attack he should fire at once, so as to give instant alarm.

But firing should be avoided where actual alarm is not urgent, as it unnecessarily disturbs the rest of the outposts and if often repeated would end by being unheeded, and thus destroy an important safeguard to security.

It is advisable to keep the same men on the same posts ; also to select the most intelligent men for posts of importance.

Sentries under observation of the enemy by day should be changed to other positions at night. If they have been on high

ground they should be moved to lower. This will give them the benefit of the sky line, while it takes it from their opponents. But this change to lower ground does not imply that sentries *along* a ridge by day should be withdrawn *behind* it by night. They should rather be pushed down the *farther* side, else it would be only surrendering the high ground to the enemy. Sentries should as a rule be increased by night, to avoid the possibility of the enemy gliding between them.

Sentries should never allow more than one person at a time to approach their post, and where an examining guard is established they will allow no one to pass through the line except at that point. If deserters from the enemy come to give themselves up they will be ordered to halt at some distance and lay down their arms; they will then be guided unarmed to the picquet.

If any one approaches a sentry's post and disregards a repeated challenge, or tries to withdraw after called on to halt, he should be shot down.

If a 'flag of truce' is brought, the bearer should be halted in front of the line while the commander of the picquet is being communicated with. In the meantime no information should be given, no questions answered, and no opportunity of reconnoitring the position allowed the bearer.

Everything noted concerning the enemy should be reported, and a special report at once made of any unusual signs, such as clouds of dust, troops on the march, &c.

Sentries are relieved every two hours except when the inclemency of the weather or other special causes require them to be relieved oftener.

Instead of allowing free passage at any part of the line of sentries to those who have permission to traverse it, some armies adopt the plan of confining this passage to the main routes which intersect it. These points are determined by the officer commanding the picquet, who stations a post there which is called the 'examining guard.' It usually consists of a non-commissioned

officer and four men, and its duties are to examine everyone wishing to pass through the line of sentries, give or refuse permission to pass, or send in a report and await orders, in accordance with the instructions issued in each special case.

PICQUETS.

The strength of a picquet is regulated by :—

1. The number of sentries and patrols required to be furnished.
2. The amount of resistance it is intended to offer.
3. The number manageable in one command.

When a picquet forms one of several, from 40 to 50 privates for infantry, from 20 to 30 for cavalry, is a suitable strength. This number is capable of considerable resistance, and, furnishing only a few sentries, is within easy reach of each. It is divided into three reliefs, so that six men are required for each post.

A certain proportion of the picquet, independent of the sentries, must be allotted to patrolling. This number will vary with the circumstances and locality. In a close country it is advisable to multiply patrols rather than sentries, and at night patrolling is the chief guarantee for safety.

The distance of the picquet from its furthest sentry ought not if possible to exceed about 400 yards for infantry, 1,000 yards for cavalry.

An intermediate sentry is placed between the front sentries and the picquet, when the former cannot all be seen from the picquet.

The most convenient position for the picquet is in rear of the centre of the line of sentries. But it should command any approach in its neighbourhood from the side of the enemy, and if possible be concealed. There should be free approaches to the sentries, neighbouring picquets, supports, and reserves, and a good line of retreat. It should avail itself of any natural shelter at hand, but houses, farm buildings, etc., should not be occupied without

authority. If a wood is in its neighbourhood and not watched by sentries, then the picquet should be posted at some distance on the near side of it, otherwise it will be exposed to surprise. If it be necessary to post a picquet in a defile obstacles should be erected to cover its front, else a sudden rush of the enemy may overpower it before it had time to offer resistance. If the picquet be at the extremity of a line and without support for its flank, it should cover itself with a detached party. Small parties may be detached from a picquet either to protect special points, to support exposed sentries, or for convenience of relief when the line is extended. But these posts should act in every way in conjunction with the picquet.

At night a picquet may be advanced closer to its sentries, or they withdrawn a little nearer to the picquet. It should be posted close to a road or any other beaten track leading from the enemy. For this would be the line by which a night attack may be expected, as the enemy would usually be adverse to the uncertainties of a movement across country.

Fires should not be lighted without special authority, and, when allowed, should be made out of observation of the enemy. The rallying point in case of attack should be in rear of the fire, as a better view will thus be obtained of the enemy as he approaches.

The usual hour for relieving picquets is daybreak, and they should as a rule be under arms an hour before that time. There should be always a sentry over the picquet, and a picquet should be ready to fall in at a moment's notice.

If an attack is at all likely, a certain proportion of the picquet should be kept under arms at night, and these separated from the remainder. Thus the immediate action of a portion of the picquet would be ensured, and not impeded by the confusion that might otherwise arise in case of attack.

It is advisable on all occasions to have a few cavalry attached as orderlies to a picquet, when its position or distance from the main body would render them necessary.

The horses of a cavalry picquet should be kept constantly saddled, and bridles only taken off for the purpose of feeding or watering. From a third to a half only should be fed at a time.

If there is not water close to a picquet, only a few horses should be taken to water together, and the men in charge of them should be fully equipped.

Saddles should be shifted once in every twelve hours.

PICQUET PATROLS.

A line of stationary sentries may so far guard against surprise that the enemy cannot pass into the position without being observed; but it is in the discovery of his approach and the searching out of his movements beforehand that true security must be looked for. This is effected by patrolling.

Picquet patrols are of two kinds, one for immediate duty between the picquet and its sentries, the other to reconnoitre towards the enemy.

The first are mainly used at night, when they frequently make the rounds of the sentries belonging to the picquet. They move along the front and see that the sentries are alert, examine the ground they traverse, and assure as far as is in their power the security of the post. These patrols are also used to maintain communication with neighbouring picquets and supports. They are seldom required in front of the line of sentries by day, unless where portions of the ground so obscure the view that it may be necessary to ensure that the enemy does not advance there. But if used by day they should not move out of sight of the sentries, nor by night beyond gunshot. They need not consist of more than two or three men, and at night between reliefs is the best time for employing them.

Reconnoitring patrols are pushed out towards the enemy to discover his movements, and, if opportunity offers, examine his position. This latter, however, will be difficult unless the enemy

neglects his outpost service, and it is with the former that a picquet patrol is more especially concerned.

In a duty of this kind everything depends on the intelligence and activity of the men employed. What is sought for is information, so special men should be selected, in order that what is seen may be most intelligently reported on.

Presence of mind, cunning, bump of locality, quickness in devising expedients, are valuable qualities in men employed on this duty. The utmost circumspection is necessary, both to attain the object in view and to avoid being captured. A patrol should avoid all engagements unless ordered to make prisoners, as the gain would not compensate for unnecessarily disturbing the outposts. Seeing and not fighting being its business, and as two men can see as much as twenty when moving together, the numbers will usually be small. An infantry patrol should not advance more than half a mile beyond the line of sentries by night. In almost all cases patrols will be formed of cavalry by day. The distance to which a cavalry patrol may advance must be left to the discretion of the commander. It should push far enough forward to see the enemy's outposts if not too distant, and may even at night pass through his sentries. The same patrols should, when possible, be used at night for the district they have worked over by day, as their knowledge of the ground would materially facilitate their movements. The time of sending out patrols as well as the direction they take should be constantly varied, else the enemy, watching their movements, may lie in wait to overwhelm or cut them off.

Though a patrol of this kind may return without having discovered any movements of the enemy that need cause apprehension, still the outposts should not be the less vigilant on that account. For it sometimes happens that the enemy, watching the movements of the patrol and relying on the sense of security its uninterrupted return is likely to give the outposts, advances to attack in the hope of surprising them. An instance of this occurred in the campaign in Germany of 1796, near Lawingen

on the Danube. The Austrians occupied Lawingen and the French were posted in some villages about three miles distant. A cavalry patrol from the French outposts reconnoitred close up to the walls of Lawingen, and only noticed that the Austrian outposts seemed reduced and drawn farther back than on the previous evening. The patrol returned reporting all safe. But the enemy, who had formed in silence behind the walls of Lawingen, advanced as soon as the enemy's patrol had retired, and surprising the French outposts, took nearly the whole prisoners.

OFFICER COMMANDING PICQUET.

The officer commanding a picquet should take down in writing the instructions received from the officer commanding the outposts. He is directly responsible for the safety of his post, so nothing should be left undone to guard against surprise. He should not go beyond reach of his picquet by day, yet he should acquaint himself as minutely as possible with the adjoining country. All roads and paths should be reconnoitred and their direction noted. All obstacles in front of his position examined, and if marshes, streams, etc., where they are passable. He should be constantly on the look-out to obtain information about the enemy. If his post is attacked by day he will reinforce the sentries with a part of the picquet and at once send warning to the neighbouring picquets and supports. He will then hold his ground, if possible, till his flanks are turned, and if obliged to fall back, do so slowly in skirmishing order, never losing sight of the enemy and disputing every inch of ground.

The direction of retreat should be clear of any portion of the outposts at hand, so as to admit of their at once coming into action either directly against the enemy or taking him in flank. If the enemy is driven back or withdraws from the attack, the infantry should resume its former position but not pursue. Cavalry would send a patrol to observe the enemy, and discover, if possible, where he halted. In a night attack the sentries would fall back

to the picquet on such points as may have been previously appointed for them to rally on. The picquet itself, being posted to meet an advance of the enemy, ought, instead of being surprised, to attack him at an advantage. Firing at night can seldom effect much, and may do harm, while a well posted picquet should, from its knowledge of the locality, have the advantage of the enemy in a resolute attack with the bayonet.

The officer commanding a picquet should never forget the importance of patrols as an adjunct to the sentries in providing security. Patrols should always be active some time before daybreak.

When the sentries or vedettes are posted, and the position of the picquet fixed, the officer should report to that effect to the Commander of the Outposts, adding any fresh information obtained about the enemy. In addition to the usual reports, any important information obtained should be at once transmitted, and all such reports should, when possible, be in writing.

A report should specify—

The picquet it emanates from.

The hour of sending.

How the information sent was obtained.

Whether it is believed to be reliable.

If the enemy was seen, the particulars of his force, etc.

SUPPORTS.

Supports are intended to reinforce the picquet in case of attack, so would usually be composed of infantry. In a very open country they may be formed of cavalry. The nature of the ground must regulate their position, but they should not be placed too far off to afford timely aid to the picquets, nor too close to be involved in their retreat if driven in. An average distance for infantry would be from 600 to 800 yards, for cavalry from 1,000 to 1,500 yards. A village or defile on the line of retreat is a good position when the support is composed of

infantry, but cavalry should always have open ground to manœuvre on. One support will usually be sufficient for every two or three picquets, and its commander should have a clear understanding with the commanders of the picquets for concerted action should the enemy attack.

The commander of a support should maintain constant communication with the picquets with which he is connected, as also with the neighbouring supports and the reserve. This will be usually effected by patrols. He must provide for his own immediate security by sentries or vedettes, but otherwise he may to some extent relax the degree of watchfulness required from the detachments in his front.

RESERVES.

The reserve will comprise about a third of the outposts, is usually composed of all three arms, and forms a pivot of resistance to the whole. Its position should be central, so as to act quickly in any direction threatened, and should be defensible in case of need, though in most cases the reserve would advance to the support of the picquets. When artillery forms part of the reserve it remains limbered up, except when a defile is to be defended, then the guns would be unlimbered and held ready for action.

The horses of artillery and cavalry are kept bridled and harnessed; they are watered and fed during the day only, and then in reliefs. Infantry always keep on their belts and accoutrements.

The distance intervening between the reserve and the supports will vary with the nature of the country and the strength of the outposts. It would seldom be less than half a mile, and seldom exceed a mile.

To watch and warn being the first object of outposts, they should avoid unnecessary movements that would provoke an engagement. If, however, the enemy does attack, they must

resist to the utmost, and sacrifice themselves, if necessary, to procure time for the main body to get under arms.

The above is an outline of how the troops forming the outposts may be most advantageously disposed, as well as of the special duties devolving on each part. Considerations of ground will, however, frequently modify this disposition. But a particular formation is only of value inasmuch as it best tends to promote the object in view, and so far only should a stereotyped formation be adhered to for outposts. In all cases troops should be made to fit the ground and never ground made subservient to formations. Thus the general form above laid down must be regarded as eminently elastic, yet in all modifications the principle should be kept in view of adopting the best measures for providing mutual support and general security.

Such varying conditions affect the strength and composition of the outposts that it is difficult to lay down on this head anything that would be invariable. Instead therefore of assuming conditions that must necessarily be vague, and thereon assigning numbers that would probably lead to error, we will give a few instances from actual warfare, where the strength of the outposts has under different conditions considerably varied.

On the eve of the battle of Weissenburg, when the enemy were known to be still at some distance, Bothmer's Division of the IInd Bavarian Corps formed the advanced guard of the IIIrd Prussian Army, and occupied Bergzabern. Its outposts were formed of 2 battalions and 2 squadrons, which may be taken at about 2,200 men. They extended from Schweigen to Schaidt, a distance of about seven English miles.

This would give about 300 men to a mile.

On the night of the battle of Weissenburg and while still in contact with the beaten foe, the outposts of the same corps were composed of 5 battalions and 1 squadron, and extended from beyond Weiler to Rott, and thence along the Seltzbach to the

Hagenau road, a length of 5 miles. Taking the strength of this force at 5,000 men, this would give about 1,000 men to a mile.

On the eve of the battle of Worth the xxth Brigade formed the advanced guard of the vth Prussian Corps, which was nearest the French, and furnished its outposts. They extended along the eastern edge of the Sauer valley from the Kuhbrücke through Spachbach to Gunstett, covering about 4 miles, and were composed of $1\frac{1}{2}$ battalions and 1 squadron—about 1,500 men. This allowed something less than 400 men to a mile.

But in this case the remainder of the advanced guard was posted in a central position in rear, within a mile of the general front occupied, and the towns of Mitschdorf and Preuschkorf, about the same distance in rear of the right, were each held by a battalion, thus providing a powerful reserve for the troops actually forming the outposts.

Previous to the advance of the Italian Army into Venetia in 1866, the Austrians watched the line of the Mincio between Peschiera and Mantua, on a front of about seventeen miles, with 2,800 infantry, 1,200 cavalry, and 16 guns.

This allowed about 250 men to a mile.

On the eve of the battle of Custoza, after the Italians had crossed the Mincio, the Austrian outposts on the high ground from Castelnuovo to Sona, about five English miles, were composed of three battalions and one and a half squadrons, about 3,200 men.

This gave 640 men to a mile.

On the other hand the open ground between Sona and Dossobuono, about five miles, was watched by five squadrons.

This only allowed about 150 men to a mile.

In the early part of Craufurd's operations on the Coa in 1810 he watched the river from Barba del Puerco to Campillo, about twenty miles, with 4,000 men.

This allowed only 200 men to a mile.

But Craufurd's operations at this time must be taken rather

as an example of what extreme vigilance, activity, and daring may accomplish, than as a guide to be safely followed where the circumstances are not altogether exceptional.

On the eve of the battle of Colombey the outposts of the 1st German Army extended from Sanry-les-Vigy by Retonfay—Ogy—Laquenexy—Frontigny to Chesney, a length of about twelve miles. The outposts were composed of 6,250 infantry and 1,800 cavalry. The infantry occupied a front of about eight miles, and the cavalry four miles.

This gave nearly 800 infantry to a mile, and 450 cavalry to a mile.

EXAMPLE OF A SMALL FORCE OF INFANTRY DISPOSED AS
OUTPOSTS.

The following disposition of a battalion of infantry was proposed by Lord Frederick Fitz-Clarence.¹ See Plan I.

The line to be occupied is an open chain of down hills, extending along a front of about four miles. On the left is a river running perpendicular to the line of front, and on the right an extensive wood reaching close up to the position. Between these two points the country is open.

The outposts are to cover a body of troops cantoned in and about the town M.

It is assumed that five companies of sixty rank-and-file are sufficient to furnish picquets and sentries. Therefore a battalion of ten companies is allotted to the outposts.

Each picquet is formed of the whole of one company.

The picquet on the left detaches a party of one sergeant and six rank-and-file to watch a ford on the river. The party furnishes one double sentry for this purpose.

¹ The 'Manual of Outpost Duties,' by Lord F. Fitz-Clarence, being a long time out of print, the author has ventured to borrow from it the following instructive example.

The same picquet detaches another party of one subaltern, one sergeant, and twelve rank-and-file to the bridge, furnishing a double sentry to the bridge head to watch that approach, and a patrol on the west of the river. These parties are intended to secure the left flank of this picquet, and thereby of the whole line.

A patrol of one sergeant and three rank-and-file is also furnished for patrolling along the front until it communicates with the patrol of the picquet on its right.

Patrols are also sent *across* the river.

The sentries furnished by the picquet are shown on the Plan. Double as many are employed by night as by day, and the whole are advanced sufficiently down the *far* side of the hill to prevent their being seen in relief against the sky line. By day the sentries are posted close to the edge, but as much out of sight as possible.

The left picquet will therefore stand thus :—

	Subt.	Sergt.	Rank and file	
Detached parties	1	1	12	(bridge)
” ”	0	1	6	(ford)
” ”	0	1	3	(patrol)
Total detached parties	1	3	21	

Main body of picquet :

Capt.	Subt.	Sergt.	Rank-and-file.
1	1	1	39

If we deduct 3 corporals from the 39 rank-and-file we have available for sentry and patrol duty—

	36 privates
Deduct	3 (sentry over arms)
	33
	24 (four double sentries in three reliefs)
	9 available for patrolling.

The next picquet on the right furnishes sentries in a similar manner.

The picquet formed by No. 7 Company detached a party of

1 sergeant and 6 rank-and-file to secure the small wood in its front. They would have a double sentry in front of the wood by night, but this sentry may be dispensed with by day, as the wood would be frequently visited, and its front is overlooked from the hill to its right rear.

The next picquet (No. 1 Company) furnishes, in addition to its sentries, as shown on the Plan, two patrols of one sergeant and six rank-and-file each. The right patrol has orders to move forward as far as the wood from time to time, and ascertain that the enemy is not collecting there.

The next picquet on the extreme right detaches a party of 1 subaltern, 1 sergeant, 18 rank-and-file to its right front. This party furnishes a double sentry on the hill to its right, and a patrol which moves into the wood and thence round its right until it communicates with the patrol from the right reserve.

The right reserve is formed of three companies, this flank being the more exposed, and the left of two.

The right reserve patrols in rear, and also sends a patrol every half hour round the right flank to communicate with the right picquet.

In the above disposition it is to be observed that the picquet on the left flank, being assailable by the ford and the bridge, it is necessary to station a party at each of these points for their protection. Moreover the distance, nearly a mile, is too great to furnish sentries from the picquets.

The night sentries are moved *forward* and down the slope of the hill, but it is not proposed to alter the place of the picquet by night unless the position of the enemy will have enabled him to detect its place by day, to see its bivouac fire by night, or unless it is advisable to move it nearer to its sentries.

The picquet on the extreme right, having its outer flank uncovered, detaches a party for its protection which patrols the wood in front, as also its right flank and rear.

Sir Charles Napier suggested the following alterations in the above dispositions.

1. The party near the bridge on the left should be under cover in the advanced houses of the village, communicating with the body of the picquet by a connecting sentry.
2. The patrols moving along the front should visit the villages on the two roads running respectively on the left of No. 8 Company and the right of No. 7.
3. 'The detached party (from No. 7 Company) should be on the *north* side of the wood, just within the edge.'
4. 'I would place this detachment (that from the Grenadier company marked A in Plan) *in* the wood altogether. Such a wood on your flank would be full of danger.'

The following are General Shaw Kennedy's remarks on the same subject :—

1. After comparing the relative distance from each other and the main body of the different parts of the outposts, he concludes thus : ' All these arrangements are, I conceive, on quite right principles, and judiciously made.'
2. ' The posts of the day sentries are unquestionably good, for they see all the ground in front and are near to their picquets ; whether the most advanced night sentries would be safe, might depend on the nearness of the enemy. Were the enemy very near, might it not be necessary to have a double sentry on each flank of each of the hills, in place of one double sentry in front?''¹
3. ' Even if the enemy is not very near, I think that a work should be made at each such post as those furnished at the bridge and ford by the left picquet. Those works should be made with the double view of protecting sentries from being destroyed or overcome so suddenly that they neither fire nor give any alarm, as was the case with the double sentry at the bridge of

¹ This alteration is carried out in plan.

San Felice ; and the other object is that of delaying the enemy's advance. If not obstructed at the ford, there would be nothing between him and the town.'

4. 'Whether the picquet (detached party?) on the right (that furnished by the Grenadiers), could be kept so far in advance would depend, I think, upon the nearness of the enemy. If the enemy was very near, it might perhaps be safer to have it a little nearer to the picquet, but still on the road ; and that some obstruction was constructed so that the enemy could be delayed, either in front of or at the houses where the road passes them immediately behind the picquet.'

It will be noticed that the strength of the picquets in this case considerably exceeds that which has been assumed as usually most advantageous. At the risk of questioning dispositions sanctioned by such high authority, it may be permitted to point out some of the disadvantages attaching to the use of large picquets.

Taking for instance the second picquet from the left (No. 8 Company), its left night sentry is 1,000 yards from the picquet, its right sentry is 2,000 yards from the same left sentry, and about 1,500 yards from the picquet, hence if the relief moved in one party from left to right, the right sentry would have marched over $1\frac{3}{4}$ miles before reaching his post, and the non-commissioned officer in charge of the relief over two miles and a half before he had regained his picquet. And it is not to be presumed that the relief would be subdivided into several parties, as unless other duties were neglected non-commissioned officers would be scarcely available. The same objection exists as regards the patrols.

If therefore two of these picquets were formed into three, each would still form a strong post in case of attack. Each too would furnish fewer sentries (without diminishing the total) to which they could be pushed closer (as suggested by General Shaw Kennedy), and thus while more security was obtained the dis-



osts

of 8 Companies
Outpost Duties
A Fitzclarence.



tance to be moved over by the reliefs would be considerably diminished. This too would be an advantage as regards the patrols. For as the distance to be traversed by a patrol would be considerably lessened, and as during the night each patrol on returning to the picquet may be at once replaced by another, the ground in front of the line of sentries would remain a proportionately shorter time unguarded.

The numbers allotted to the outposts in this case are 600 men to four miles of front. This allows only 150 men to a mile. But here the main body is situated in a very central position as regards the line occupied; its average distance from the picquets does not much exceed a mile and a half. Yet the numbers are considerably less than those in any of the instances we have quoted from recent warfare.

OUTPOSTS OF PRUSSIAN Xth DIVISION BEFORE PARIS, 1870-71.

See PLAN II.

DURING the siege of Paris, the xth Prussian Division occupied the district about La Celle St. Cloud—Beauregard. Its line of outposts extended by St. Cucufa—La Jonchère—Bougival.

This line was divided into two sections. Section I. extended from the Cucufa pond to La Jonchère. Section II. continued the line to the Seine.

The gamekeeper's lodge near the 'Porte de Longboyau' formed a detached post in front of Section I., and the park and chateau of Malmaison a similar post in front of Section II. The former was garrisoned by 40 men with a wall-piece, the latter by a weak picquet.

One brigade (two regiments), one battery, one squadron, formed an advanced guard to the Division. It remained six days on this duty and furnished the outposts, to which it formed an immediate support, and was held in a constant state of readiness for action.

One of the infantry regiments (three battalions), occupied each section.

One battalion from each formed the actual outposts.

Two battalions remained in immediate reserve.

The outpost battalion (four companies), had one company broken up into picquets, the three others formed a support.

One or two sections of cavalry performed the orderly duty in each outpost Section.

The support of Section I. was posted in one body on the plateau of La Celle St. Cloud.

The support of Section II. had one company at the barricade closing the Reuil road at Malmaison Park, the other two a few hundred yards to the rear of the first houses of Bougival.

Computing the strength of a company at 200 men, this gave 400 men for the actual picquets and sentries, and 1,200 in support, in readiness to turn out.

Artillery was at first placed in the front line, but it was afterwards withdrawn and attached to the immediate reserves. This change was made partly on account of the fire from the enemy's works, partly because the formation of the ground favoured, in many places, a close approach of the enemy under cover.

The three companies in support in Section I. were partly in huts and partly in detached buildings on the plateau of La Celle St. Cloud.

The two battalions in reserve of this section were in the village of La Celle St. Cloud.

The two battalions in reserve to Section II. occupied Bougival.

The remaining troops of the Division were cantoned further back, and formed the main reserve.

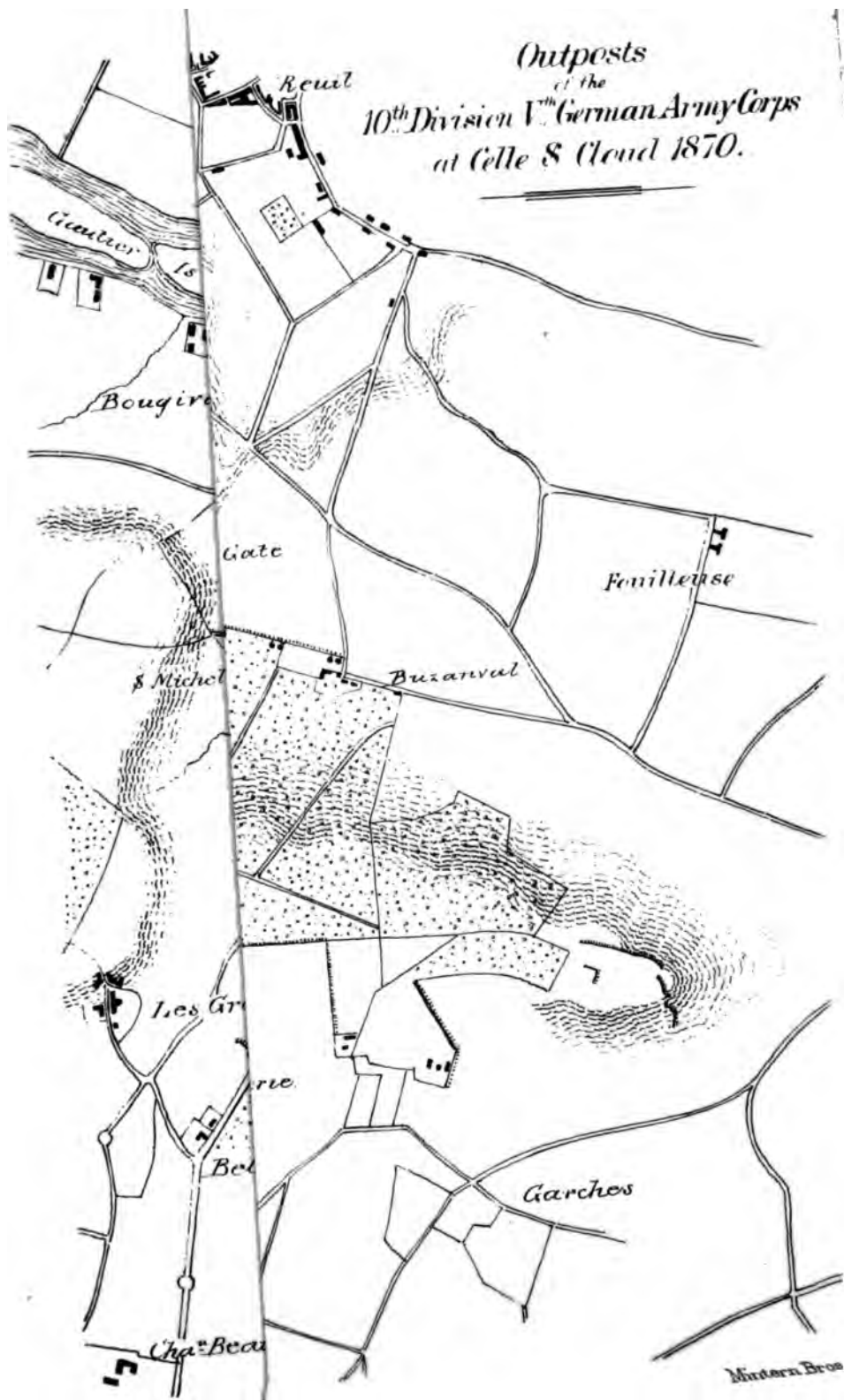
The town of Reuil so close in front of the left was a disadvantage, but this could only be remedied by occupying Reuil itself, which was impossible under the fire of Mont Valerien and its outworks.

When one brigade relieved the other, the same regiments always replaced each other, and the regiments themselves changed sections about every six weeks. This was considered of great advantage, inasmuch as it made the officers and men at home everywhere in the position.

Every post was required to hold its ground obstinately until driven back by a considerably superior force. The first line of defence was to be held at all cost. The immediate, as well as the main reserve was to be kept intact as long as possible at the disposal of the commander, and were only to send reinforcements to the line of defence if the necessity for this measure were very evident.

An officer's post, situated on the heights of La Jonchère, in a house somewhat concealed from view, supplied with the best telescopes, greatly aided the work of the look-out parties on outpost duty during the day

*Outposts
of the
10th Division Vth German Army Corps
at Celle & Cloud 1870.*



in clear weather. By day this measure provided, as a rule, against unnecessary alarm.

By night, patrol duty was carried on very watchfully and extensively, although a real attack by night, particularly in cloudy weather, was regarded as very unlikely. Infantry alone could be employed on this duty, which was one of great importance, especially during the investment.

The hour at which it was required to be most vigilant was just before sunrise. The shortness of the winter days required the French to commence early if they had anything on hand. So they would have to concentrate during the night to move off in time. But the thick fogs common in the Seine valley often prevented any view. A company was therefore sent out from each section some hours before sunrise, to get as near as possible to the enemy's position, and listen for any movement behind his outposts. These patrols often came into collision with the French.

The immediate reserve was always under arms before daybreak, and remained at the Kiosk of the Emperor until the companies patrolling announced that nothing suspicious was remarked.

The general line of the French outposts was from 1,000 to 2,000 yards distant.

POSITION AND MOVEMENTS OF AUSTRIAN OUTPOSTS ON THE MINCIO PREVIOUS TO BATTLE OF CUSTAZO. See PLAN III.

In the beginning of June, 1866, it was felt both in Austria and Italy that the outbreak of hostilities between these two powers was imminent.

Their respective forces were then disposed as follows :

The Italians had 3 Corps about 50 miles from the Mincio :	}	1st Corps Lodi.
		2nd „ Cremona.
		3rd „ Piacenza.
		Cavalry Crema.
A fourth Corps threatened the Lower Po in the direction of Ferrara.	}	4th Corps Bologna.

The strength of the force the Italians would bring into the field was estimated at about 200,000 men.

The Austrian army available for taking the field comprised—

The 5th Corps Verona.
„ 7th „ Padua.
„ 9th „ Vicenza.
„ Cavalry Verona—Padua—Rovigo—Vicenza.

Strength of available field army, about 80,000 men.

This great disparity of numbers would seem at the outset to force a defensive attitude on the Austrians.

In a despatch to the Emperor, of June 3, the Austrian Commander-in-Chief took the following view of the situation :—

‘The concentration in the Duchies and on the lower Po of the enemy’s forces would have led to suppose that he intended to penetrate into Venetia by turning the Quadrilateral. His present position makes it certain that he has abandoned this project, and that his actual plan of operations consists in holding our forces in check on the Mincio with a part of his army, while the remainder crosses the lower Po about Ferrara, marches thence on Padua, and unites with the King under the walls of Verona.

‘In face of such a contingency I opine that the best plan for holding both adversaries in check is to take up a central position between Montagnana and Lonigo, whence in a forced march I can reach either Verona or Badia, and be thus able to take advantage of circumstances and defeat the enemy, if he commits a fault.’

Acting on this view the Archduke resolved to concentrate his whole force on the left bank of the Adige, leaving on the Lower Po only sufficient force to observe the enemy on that side.

From this central position he hoped by a rapid blow, struck home against either of the Italian Armies the moment it came within reach, to defeat one before it could be succoured by the other.

But the success of this plan depended on full knowledge of the enemy’s movements and on close concealment of his own. Consequently, from the beginning of June a system of the strictest surveillance was organised along the Mincio between Peschiera and Mantua.

River Mincio :—

Breadth, from 40 to 80 yards.

Mean depth, from 6 to 8 feet.

Banks alternately command each other—easily bridged.

Permanent passages	}	Peschiera.
		Monzambano.
		Vallegio.
		Goito.

Heights on left bank terminate at Vallegio.

On June 4 the following dispositions were ordered :—

A detachment of Infantry at Salionze to watch the river from Peschiera to Monzambano.

Pulz's brigade of Cavalry, with a battalion of Chasseurs (21st), to take up this line from Monzambano to Goito.

The garrison of Mantua to watch the other points of passage.

On June 5, detailed directions were sent to Colonel Pulz, sufficiently instructive to be quoted at length.

'The Cavalry Brigade charged with observing the Mincio between Salionze and Goito should particularly occupy itself with watching the Italian outposts, composed chiefly of cavalry, and collecting all possible information about the enemy's movements.

'It is strictly forbidden to allow any one to cross the frontier without a pass. Cavalry patrols will be maintained night and day between the above-named villages (care being taken not to fatigue the troops unnecessarily). They will watch all points of passage, principally where the river narrows, and where the right bank, commanding the left, facilitates the construction of a bridge, as at Massimbona, Ferri, Pozzolo, Salionze, &c. Light Infantry posts, established at different points, will supplement the outpost work performed by the cavalry patrols.

'Immediately that hostilities commence the number of patrols will be doubled. They will take every precaution against being surprised. In case of necessity they will fall back on their supports. The detachment of the 54th, posted at Mozzecane, will fall back on Villafranca. If the attacking force of the enemy is considerable, orderlies will be at once sent to inform the detachments at Somma Campagna, Custoza, Vallegio, Salionze, Oliosì, &c.

'It would be well, in view of this, to agree with the officer commanding the 5th Corps on some alarm signal: for instance, a flag hoisted on the tower of Villafranca, and the sounding of the alarm clock. On this signal all the Infantry detachments should quickly re-unite on points designed beforehand.

'All information of importance will be sent direct to the general Head Quarters, and, in case of urgency, communicated to the Commander of the 5th Corps, and to the Governors of Mantua and Peschiera.

'The Cavalry Brigade will continue on this service of outposts for the present along the Mincio, even though the Infantry detachments now established between that river and the Adige (always excepting the 21st Chasseurs, placed under your immediate orders) be required elsewhere.

'I am sending a copy of these instructions to the Commander of the 5th Corps.

'Finally, I wish to point out to you that it is not my intention, if the

enemy attempts the passage of the Mincio, to obstinately oppose it : so that your business will consist in harassing him, so as to delay his movements as much as possible, while constantly remaining in contact with his troops.

‘ In case of retreat you will fall back on Villafranca, and thence on Verona.’

On June 6, the actual position of the line of outposts along the frontier was as follows :—

A half company at	Salionze.	
Head Qrs. of Pulz's Cavalry Brigade,	Villafranca.	
Head Qrs.—2½ squadrons 1st Hussars	”	} 1st Hussars.
Half squadron	” Pozzolo	
One and a half troops	” Vallegio	
Half troop	” Salionze	
Head Quarters 13th Lancers	Roverbella	} 13th Lancers.
Two Squadrons ”	Marmirolo	
One ” ”	Marengo	
8th Battery 5th Regiment	Grezzano and San Zenone.	
2 1st Chasseurs (1 Battalion)	Vallegio.	
Detachment do.	Pozzolo.	
A Grand Guard	Ponte di Bottura.	
The 3rd Battalion 54th Regiment	Mozzecane, Rosegafero, and Quaderni.	
” 4th Battery 5th Regiment	S. Giovanni Lupatota.	
” 2nd Battalion 53rd Regiment	Nogara.	
The garrison of Mantua furnished the outposts	} between	Lake Superior and the Po.
A Company at	Revere.	
” ”	Sermide.	

The lower Po was watched by Scudier's Brigade, to which was attached the 13th Hussars. Head Quarters at Rovigo.

1 Battalion at Adria.

The following is an extract from instructions addressed to the Commander of latter force on June 16 :—

‘ The dispositions made will enable you to repel any attempt at invasion by partisans.

‘ Your chief duty will be to vigilantly watch the enemy's movements and inform me immediately of everything that happens. In case of serious attack the advanced posts will fall back on their supports, and

these, if driven in, will retire on Rovigo. The battalion detached to Adria must, if cut off from Rovigo, fall back on Cavarzere.'

General Scudier was further ordered to take possession, as soon as hostilities were declared, of all boats, floating mills, &c., within reach, and to secure or destroy them.

On June 15 the Italian army commenced to concentrate on the lower Po and Mincio.

The Archduke Albert accordingly gave immediate orders for a concentration of his force behind the Adige, between Lonigo and Montagnana.

Pulz's Brigade, with the 21st Chasseurs, to continue watching the Mincio.

Scudier's Brigade and 13th Hussars to continue watching the lower Po.

All railway rolling stock to be held ready for concentration on Verona and Venice.

As the main Italian army was now being pushed closer to the Mincio, while a considerable amount of bridge equipage was at the same time being collected on the lower Po, there was every probability that a simultaneous attack from both directions would be undertaken by the Italians.

On June 17 Colonel Pulz was ordered to watch with the greatest vigilance the points of passage between Salionze and Goito, and to establish advanced posts at the entrance of every main line of communication.

On the 19th, the 21st Chasseurs were withdrawn from Vallegio where they were too exposed, to Custoza. They were replaced by a Cavalry detachment.

With the exception of the half-company at Salionze, the Mincio was now entirely watched by cavalry.

On the morning of the 20th war was declared by the Italians, and it was notified to the Archduke Albert by the King of Italy that hostilities would commence in three days.

Colonel Pulz reported that on the 20th the enemy had a strong advance guard on the Mincio at Ferri; that large detachments of infantry and artillery were near Goito; that a column of infantry (about 3,000 strong) had moved up the right bank from Goito to Borghetto; that an infantry camp was established between Cerita and Ferri.

On the same date General Scudier reported—

That a considerable number of troops had been assembled at Franco-linetto; that the enemy had occupied the island in the middle of the Po,

opposite this point ; that material for a bridge had been collected in an arm of the river.

The Italian force on this side was commanded by Cialdini.

The main Italian Army on the Mincio was commanded by the King.

From the above information two possibilities presented themselves for the consideration of the Archduke.

1st. That the King would cross the Mincio and push on rapidly to the Adige to protect Cialdini's turning movement.

Or, that Cialdini would at once cross the Po to draw the Archduke towards him, and thus enable the King to pass first the Mincio and then the Adige.

The Archduke decided that in either case he would march against the King.

If the enemy acted according to the first supposition, he determined to fall on the flank of the King's army in its march from the Mincio to the Adige.

If according to the second, to cross the Mincio and fight the King wherever he met him.

To deceive the enemy to the last he remained immovable behind the Adige until the 22nd.

As it was of all importance to his plan that it should be a complete surprise, a most rigorous surveillance was established along the Adige, and communication was completely interrupted between both banks.

On the 22nd the Austrian army was ordered to concentrate on Verona.

Pulz's brigade to hold its ground, and retire in case of attack only ; it was then to fall back on Verona, but never to lose touch of the enemy.

On the night of the 22nd Colonel Pulz reported as follows :—

‘Large bodies of Italian troops on the Lower Mincio, and especially about Goito.

‘The latter village occupied in force by the enemy.

‘Reconnoitring parties of the enemy pushed along right bank, especially between Molini della Volta and Ferri, looking for a favourable point of passage.

‘A bridge was thrown yesterday about a mile south of Monzambano, to connect the right bank with an island in the river.’

Early on the morning of the 23rd, the Italian Cavalry Division (Sonnaz) crossed the Mincio at Goito, while another strong force of Cavalry crossed higher up at Vallegio, both moving on Villafranca.

Pulz's outposts, driven in, concentrated on Villafranca. At mid-day Pulz was obliged to resume his retreat, falling back slowly towards Verona.

About 3 o'clock he made a stand at Dossobuono, bringing his battery into action.

The enemy's Cavalry fell back on Villafranca. Having destroyed the telegraph and railway, it took post at Quaderni and Mozzecane.

In the meantime part of the King's army crossed the Mincio as follows :

1st Corps at	{	Monzambano.
		Borghetto.
		Molini Della Volta.
3rd „ at	{	Goito.
		Ferri.
2nd „		remained on right bank.

A reconnoissance from the Austrian Head Quarters, on the afternoon of the 23rd, reported enemy not apparent in the direction of Salionze, but in considerable force towards Valleggio and Villafranca.

Hence Archduke confirmed in his view of enemy marching on the Adige.

Position of Austrian Army on night of 23rd :—

5th Corps	.	.	Sona, S. Giorgio, Castelnuovo.
7th „	.	.	S. Massimo.
9th „	.	.	S. Lucia.
Reserve Division			Sandra, Pastrengo.
Cavalry	.	.	Fort Giselle.

Outpost duty on night of 23rd by Austrians :—

One squadron and a half of Cavalry watched the ground south and west of Castelnuovo.

One Battalion Infantry the ground south of S. Giorgio.

Two Battalions do. the heights south of Sona.

Five squadrons the plain east of Sona to Dossobuono.

During the night Cavalry patrols were pushed up to Custoza, Villafranca, and Povegliano without meeting the enemy.

Position of Italian Army on night of 23rd :—

1st Corps—3 Divisions (left bank)	{	Monzambano.
		Valleggio.
		Pozzolo.
1 Division (right bank)		—Ready to cross.

3rd Corps—Pozzolo, Roverbella.

2nd Corps { 2 Divisions—near Goito (ready to cross).
 { 2 Divisions—Mantua, Borgoforte.

Cavalry Division—Mozzecane, Quaderni.

” ” Outposts between Mozzecane and Villafranca.

The Italian Head Quarters, finding the enemy in no force between the Mincio and Adige, and being in complete ignorance of his movements, assume that the Austrians have concentrated behind the Adige. Accordingly the King determines to move on Verona, take up a position Villafranca—Somma Campagna—Castelnuovo, oblige the mass of the Austrian force to concentrate against this position, and thus facilitate the crossing of the Lower Po by Cialdini.

On the other hand—

The Austrian Commander, perfectly informed by his outposts of every move of the Italians, closely concealing all his own movements behind the screen of these same outposts—divining from his ample information the general line of action of his opponent—is now concentrated within easy reach of the position from which he hopes to unexpectedly fall upon and crush the successive fractions of the enemy.

The Austrian Army was ordered to move on the morning of the 24th, at 3 o'clock, into following positions :—

9th Corps—Somma Campagna, Berettara.

7th ” —1 Brigade between Berettara and S. Rocco de Palazzolo.

5th ” —S. Rocco de Palazzolo.

Reserve Division—Oliosì.

Two Brigades (7th Corps) in reserve at Sona.

Cavalry Division—Somma Campagna, Villafranca.

Still entirely ignorant of the proximity and intentions of the Austrians, the King, on the evening of 23rd, orders the following movement for the 24th :

1st Corps to Castelnuovo, to occupy the line Castelnuovo, S. Giustiana, Sona.

3rd Corps to prolong this line from Somma Campagna to Villafranca.

The Reserve Cavalry Division to cover right of 3rd Corps.

2nd Corps (two Divisions) to cross Mincio at Goito and act as reserve.

Hourly reports were furnished to Head Quarters during the night of



the 23rd by the Austrian Cavalry patrols. No change was announced, and the Italian outposts were reported as not nearer than Mozzecane.

At midnight a telegram was received from Officer commanding outposts on lower Po, as follows :—

‘The enemy crossed the Po this evening at 8 o’clock, at different points below Polisella ; nothing new above Polisella. I am falling back from the Po, and observing the Adige. I am at present at Boara.’

This reassured the Archduke that the enemy’s movements on the lower Po were not a simple demonstration, but that Cialdini’s army was there, and not with the King.

About 2 o’clock A.M., 24th, the Italian army commenced the prescribed movement.

III. Corps on Somma Campagna —Villafranca.	}	Right by Roverbella, Mozzecane. Centre „ Massimbona, Villafranca, Gonfardine. Left „ Pozzolo, Ramelli, Rosegaferro, Somma Campagna. Cavalry Brigade, in rear of centre, on Rosegaferro. Reserve—Le Sei Vie, Quaderni, Pozzo Moretta.
I. Corps on Castelnuovo— Sona.	}	Right by Pozzolo, Custoza, Somma Campagna, Centre „ Vallegio, Fornelli, S. Rocco, S. Giorgio, S. Giustina Left by Monzambano, Salionze, Castelnuovo Reserve by Volta, Vallegio, Custoza.

This movement brought the Italian columns suddenly into contact with the Austrians, already sufficiently established in the position they had selected. Completely taken by surprise, no junction could be effected between the different Italian Divisions, while from a central position the Austrians attacked them with concentrated forces on a well considered plan. The result was the signal defeat of the Italian Army, and its retreat over the Mincio.

Forces in the field actually available on eve of the battle :—

Austrians ...	71,834 men. 3,536 horses. 168 guns.	}	Archduke Albert.
Italians ...	120,000 men. 7,200 horses. 282 guns.	}	The King.
	90,000 men.		... Cialdini.

These operations are instructive both as an example of outpost duty

efficiently performed, and of the extreme importance that may attach to it.

The problem the Austrian commander had to solve was how with an inferior force to hold his own against a greatly superior one. He realised at an early period both the difficulties of his position and the only way of meeting them. If the Italians could attack him united, his chances were small. If, however, he could deal with them disunited he still hoped to triumph. But could he count on their two armies being sufficiently long separated to enable him to strike the blow that would save him? The time it would take the Italians, after crossing the two rivers, to effect their junction on the Adige, he could accurately calculate. His power of forestalling them must therefore depend on early information, and rapidity in acting on it. Being obliged to await declaration of war by the enemy, he could not cross the frontier to reconnoitre. Thus all the more vigilance was required in watching their movements, to ensure promptitude of action the moment their plans became developed. Everything therefore depended in the first instance on his outposts, and how well they served him was proved by the results.

*MOVEMENTS OF A PICQUET ATTACKED IN SUPERIOR
FORCE BY THE ENEMY. See PLAN IV.*

In the early part of June, 1810, the French were engaged in the siege of Ciudad Rodrigo.

The British Light Division was beyond the Coa, observing the siege and watching the line of the Agueda.

On June 3, three allied squadrons and two horse artillery guns occupied Gallegos as an advanced post, and had a picquet at the village of Marialva in front.

On the 4th, about an hour before daybreak, the picquet was attacked by the French in superior force, and driven in so precipitately that both picquet and enemy arrived at the same moment in front of Gallegos.



The post at Gallegos was found drawn up ready to receive the picquet, one squadron of hussars under Captain Krauchenburg being in front, the other two formed in line in rear, the guns posted in the village churchyard.

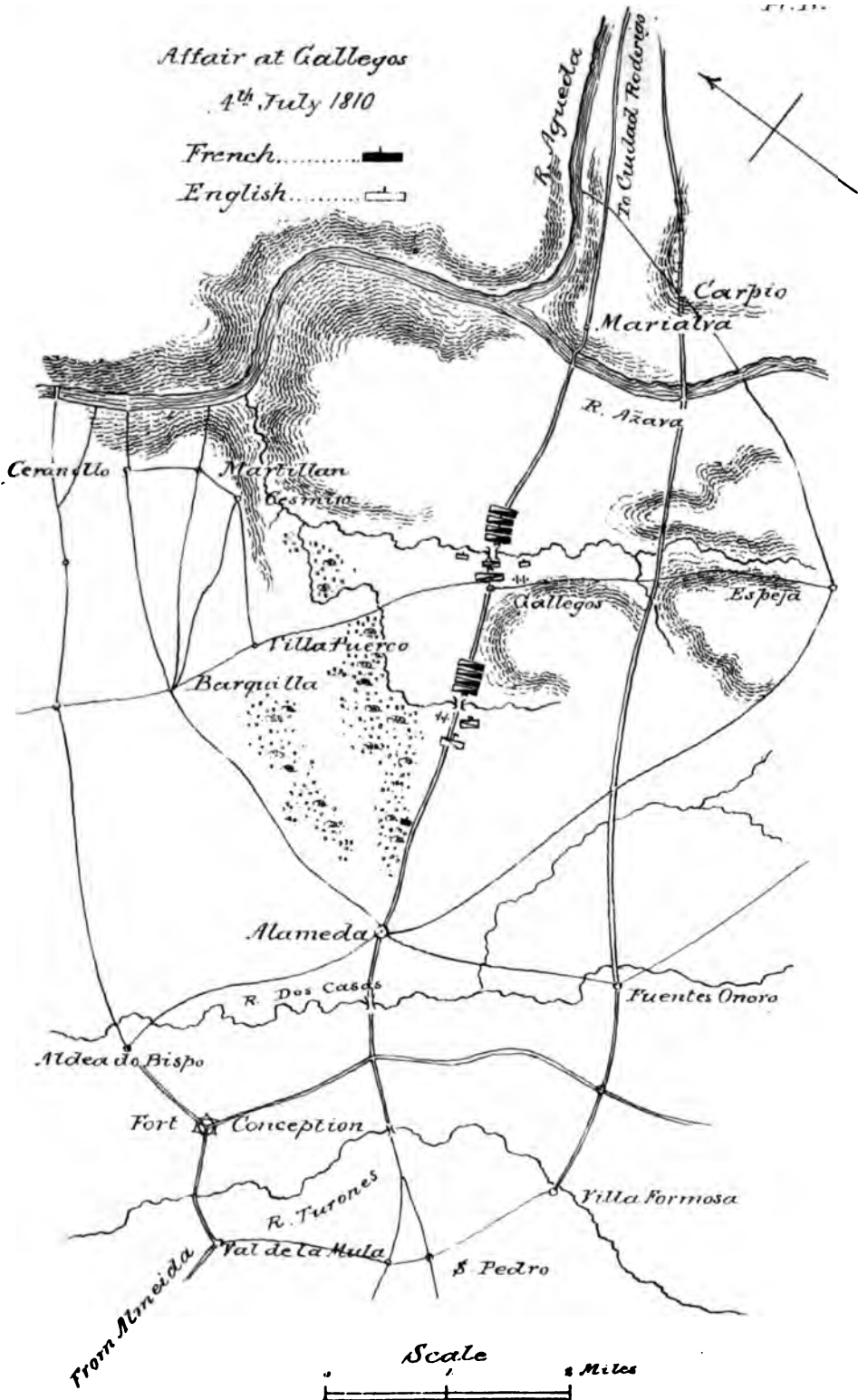
Krauchenburg, seeing the importance of checking the enemy, advanced his squadron at a gallop to within fifteen paces of the French,



Affair at Gallegos

4th July 1810

French..... 
English..... 



Scale
 *5 Miles*

Movements of a Piquet attacked by Superior Forces. 37

opened out into a line of skirmishers, and commenced firing on the leading horsemen : the guns opened fire also.

The attack, as a surprise, had therefore failed, and as the day dawned it revealed three regiments of French cavalry hesitating in front of the allied squadron. The post had strict orders to retire if attacked in superior force. Two of the allied squadrons therefore fell back, covered by Krauchenburg's squadron and the two guns. Krauchenburg dismounted a party to hold the bridge in front of the village. With two other parties he observed two fords on his flanks.

In this way he held the village for a considerable time, until one of the fords was passed by the enemy in superior force, while he was at the same time hardly pressed in front. Krauchenburg now ordered the two guns to retire and unlimber behind the bridge over a small stream between Gallegos and Alameda, to cover the retreat of the squadron.

As soon as the guns were nearly in position, he led the squadron off at a gallop towards the bridge. The enemy followed at full speed and in column, but were outpaced, and Krauchenburg drew up his squadron at the other side of the bridge before they reached it. But the leading French divisions came so close on the allied skirmishers in rear, that they succeeded in passing the bridge, when Krauchenburg, taking advantage of some disorder caused by the hasty pursuit, at once charged them.

Though opposed at this moment to three times their numbers, the well-timed charge of Krauchenburg's squadron drove back the French in disorder. They advanced a second time, and were again charged and disposed.

Krauchenburg maintained his position for some time, and only resumed his retreat on a direct order to give up the bridge and fall back on some infantry disposed in rear to cover his retreat.

The enemy's cavalry, on coming under this infantry fire, discontinued the pursuit, and the squadron continued its retreat unmolested.

CHAPTER III.

RECONNOITRING.

AMPLE and accurate information about the enemy is the basis on which every commander should frame his plan of action. No matter how skilfully contrived a plan may be, it is clear that it must fail of its object if the situation it is devised to deal with has ceased to exist before it can be put into execution. To frame dispositions without providing for due notice of events that may thwart them, is to grope in the dark and trust blindly to chances. To remain contentedly in ignorance of what an enemy may be preparing to carry out against us is simply to surrender our fate into his hands. For effective action it is essential to know how the enemy is prepared to meet that action. On the other hand, to deprive his enterprises of their chances of success it is equally essential that a commander should have sufficient warning of their nature and intention. Good information therefore about the enemy's force, position, and movements is the first step towards victory. All commanders who have done great things in war have acknowledged, by the use they made of it, the truth of this principle. Others have no less illustrated its force by the disasters entailed in its neglect.

The surest way to have accurate information of the enemy is, to keep constantly in contact with him with your own light troops. If then he is stationary, frequent reconnoitring parties should be pushed up to his position. If he is advancing and still at a distance, similar parties should be thrust forward to meet him. If he is retreating he should never be lost sight of. This principle is old and its application in war is abundantly met with.

In Napoleon's march to the Vistula in 1806 his orders to his Marshals abound in instructions for the employment of their cavalry in covering the advance. Augereau, ordered to occupy Custring, is directed to push his cavalry to Driesen, fifty miles further. Lannes, ordered to march from Stettin to Schneidmühl, is enjoined to cover his left flank with his cavalry as far as New Stettin, forty miles distant. Davoust, at Frankfort, is ordered to move an advanced guard to Messeritz, 35 miles to his front, and his light cavalry to Posen, 80 miles further on. Subsequently Lannes is ordered to occupy Thorn, and push his cavalry towards Königsberg and Grodno, 'to have positive information of the Russians.' Davoust to move on Guessen, and send Milhaud's and Beaumont's cavalry to the front as far as Klodawa, about 80 miles further. Again, in 1809 we find Davoust in his flank march from Ratisbonne to Abensberg pushing his cavalry to reconnoitre in all directions towards the enemy. In the Russian campaign of 1812 Murat's cavalry covered the front of the French, sometimes as much as 50 miles in advance. In this same campaign the Russians, on their side, pushed forward their reconnoitring parties similar distances, to search out and report on the movements of the French.

The use that Napoleon made of his cavalry for reconnoitring in 1814 materially contributed to the brilliant operations that made that campaign so famous.

Looking at the other side it is only necessary to note what penalties have been incurred when want of cavalry, or want of skill in using it, have deprived a commander of all-important information. In 1813 Napoleon was at first so weak in cavalry, and the allies so strong, that he could not reconnoitre to any distance in advance. The result was that the allies surprised him in his march between the Saal and Elster, and nothing but the resolute fighting of Ney's corps and the shortcomings of their opponents made Lutzen a victory instead of a disaster for the French.

Macdonald, on the Katzbach, trusting to reports that Blücher

was in retreat, and taking no precautions to verify them with his cavalry, was surprised on the march, and his defeat became such a rout, that he had to beg of the Emperor to come in person to restore matters.

In McMahan's march from Rheims to Sedan in 1870 the right flank, exposed to an attack from the Crown Prince, was the side where most danger was to be apprehended. Yet though there were two divisions of reserve cavalry available, none was used to reconnoitre in this direction. The result was the surprise and rout of the 5th Corps at Beaumont.

In tactical no less than strategical operations the importance of reconnoitring is apparent. At Santarem Soult neglected to reconnoitre to his right flank, the line by which Wellington's reinforcements must come up, and the undetected arrival of the 6th Division, and its sudden onslaught against his flank attack, powerfully contributed to lose him the battle. Similarly, at Waterloo, the Emperor did not reconnoitre towards Wavre, and became aware too late of the advance of the Prussians.

But even with numerous cavalry, reconnoitring may fail through the carelessness or want of skill of those charged with conducting it. After the battle of Austerlitz the reconnoitring of Murat's cavalry was so badly performed that they mistook the line by which the allies had retreated, and this error led to the misdirection in pursuit of the whole French army. The same cavalry was similarly at fault at Eylau, when after the affair of the first day they reported the Russians in full retreat, so that the Emperor's head-quarters was fixed that night under the very guns of the enemy.

Again, on the eve of Essling, Bessières' cavalry report that the enemy is not in force within several leagues, whereas at the time the Archduke's army was encamped sufficiently close to completely surprise the French next morning.

Soult, at Orthez, had broken all the bridges on the river, and was watching the fords with his cavalry, meaning to fall in force on the first troops that attempted to pass. Beresford, crossing

near Peyrehorade, drove in the French cavalry, who fell back, but neglected to report the matter at once. When Soult heard of the movement, the British had already thrown two divisions across the river, and had taken up a position to cover the crossing of the remainder. The opportunity for action had then gone by, and the passage of the river was lost.

In addition to the importance of obtaining information about the enemy, it is of scarcely less moment that he should be prevented from obtaining similar information on his side. But the dispositions for arriving at the first may be made to accord with what will at the same time ensure the attainment of the second. The force employed to obtain information should also form a screen through which the enemy would be unable to penetrate. It may be well before entering into the details of reconnoitring to give a general outline of how a force in the field would use its cavalry for this twofold duty.

The cavalry of an army is in part assigned as a constituent element to the tactical units of which the army is composed, and in part retained as a distinct body, available for separate action, though in general conjunction with the rest. Thus if a Division be the tactical unit of an army, a certain proportion of cavalry will form a component part of each Division, and this will be termed 'Divisional cavalry.' But the cavalry not so apportioned will be formed separately into Brigades or Divisions, and would, unless specially ordered otherwise, remain directly under the control of the Commander-in-Chief of the army. This has been hitherto termed 'reserve cavalry.' The 'Divisional' cavalry forms a component part of each army Division, reconnoitring the enemy and screening its movements when on the march, forming up with it in line of battle, and taking part in the action when the fight comes. So far, the immediate safety of each separate Division is provided for.

But an army composed of several army Divisions would usually march on several roads. To draw a curtain round the movements of the whole, and to push out far in advance to gain

information of the enemy, becomes the special duty of the 'Cavalry Divisions.'

A Cavalry Division would usually be composed of five or six regiments, forming two or three Brigades. It would precede the portion of the army it is meant to cover by a distance varying with varying circumstances. Arrived at this point it would echelon towards the enemy small parties diminishing in strength from the rear to the front, these spreading out in the form of a fan. Thus the troops actually in contact with the enemy would consist of a series of small patrols, while the rearmost party of all may comprise several squadrons.

Though a whole Division of cavalry may be at once employed in this way, the actual reconnoitring at any moment would be performed by a very small fraction of it. For on small parties conducted by officers, or in some cases intelligent non-commissioned officers, the real work of reconnoitring depends.

Yet small bodies of this kind could not be maintained at a distance from the main body unless a strong force were at hand to support them. Nor without that force could the enemy be prevented from tearing aside the screen that we have said is so essential to concealing the movements of the army in rear. Thus in the retreat of the French to Metz after the battle of Spicheren, the General commanding the 1st Division of the 4th Corps, exasperated at the constant surveillance of small patrols of the enemy, ordered a cavalry regiment to put a stop to it. A squadron detailed for this work quickly drove in the enemy's advanced parties, but pursuing, soon came on stronger bodies in rear, and was then repulsed, having the captain killed and several men wounded.

The distance to which cavalry employed in this way should precede an army cannot be fixed by any unvarying rule. Contact with the enemy is the first point to establish, but care should be taken that such connexion is maintained with the main body as will prevent hostile parties from penetrating the interval.

The extent of front that a cavalry division would cover with its reconnoiters would depend on the power of its commander to control the direction of the whole, and to transmit information with sufficient rapidity from the most distant parties to the Commander-in-Chief in rear. Both these conditions would be satisfied with a front of about twenty miles.

Though no organised system exists for the use of cavalry in work of this kind, dispositions that have been found to work well in practice may in the meantime be accepted as to some extent a guide.

In the advance of the 1st and 11th German Armies from the Saar to the Moselle in 1870, the cavalry of the 11th Army during the first day's march was pushed forward to points varying from 15 to 20 miles in advance of the general front. Ten regiments were employed, and they reconnoitred along a line extending from Pont à Chaussy on the right, to Pfalzburg on the left, about 60 miles. This gave one regiment to about every 6 miles of front to be reconnoitred.

On the second day's march the same force continued this duty, again pushing forward from 15 to 20 miles in advance. The front reconnoitred was again about 60 miles along the general line Pange, Nomeny, Saarbourg, still giving one regiment to every 6 miles.

On the third day the parties on the right came in contact with the enemy at all points on pushing about 20 miles to the front. On the left they reached the Moselle, about 30 miles in advance of that wing. On this flank six regiments reconnoitred the ground between Magny and Nancy, a front of about 30 miles, giving one regiment to every 5 miles.

Hitherto the movements of the cavalry in front of the 2nd Army had not been much impeded by the enemy. Hence it was able to spread out to an extent not otherwise permissible. But on this day the enemy was known to be in force in front of the right wing, so another division of cavalry was brought forward to the front line for a close reconnaissance of the enemy's

positions to the east of Metz. The division was composed of four regiments and one battery, and reconnoitred along a front of from 6 to 8 miles.

Reconnoitring may be divided under the two heads :

1. Reconnoitring in small parties.
2. Reconnoitring in force.

With what are usually termed reconnaissances in force we are not here concerned.

Small reconnoitring parties will be used with the following objects.

1. To search for the enemy, discover his movements, estimate his numbers.
2. To approach close to a position an enemy is known to occupy, and examine it in detail.
3. To explore a limited area of country, and ascertain if the enemy is occupying it.

These parties will usually be composed entirely of cavalry. Adding infantry would both impede their movements and seriously retard the execution of the work. A party of infantry may be pushed forward to hold special points, such as a bridge or other defile, through which the cavalry may have ultimately to retire. And the knowledge that their retreat is thus secured would always make the party more daring in what it undertakes. But as secrecy and celerity are essential in the work to be done, cavalry alone should be employed in the actual execution of it. If the country be so intricate as to be unsuitable to cavalry, then the reconnoitring must be done by infantry.

The business of a reconnoitring party is to see as much as it can, without being seen, and to avoid capture, which would render its mission useless. The smaller the party therefore the more chance of satisfactorily effecting its object; moreover large patrols quickly wear down cavalry. Its strength need usually be only such as will enable it to make head against similar parties of the enemy. Frequently an officer with a few troopers will be

sufficient, but when a district is to be explored the party must be stronger than if simply required to examine the enemy's position. For cavalry the strength will vary therefore from 5 to 50, who should, as a rule, be picked men, and for infantry from 50 to 100.

To define a course to be exactly followed in all the varied situations a reconnoitring party may find itself, would be to attempt the impossible. All that can be aimed at is to point out certain precautions useful under most circumstances, and show how special situations may be most advantageously dealt with. On the commander must depend the success of the undertaking, and he should be possessed in a pre-eminent degree of energy, sagacity, and dash. He will constantly find himself in situations requiring rapid decision, where no rules exist for his guidance, and everything depends on the fertility of his own resources. He should not only see but see clearly, leave nothing undone to gain information, carefully sift the value of what he transmits, and omit no provision to guard against the enemy interrupting him in his work.

Before starting the commander should carefully inspect the party, see that the horses are all sound, their shoeing in good order, and that they have been watered and fed. In certain cases it is well to carry rations for both men and horses. He should be provided with a map or rough sketch of the country he is to advance through, and when going to a distance a trustworthy guide should be procured.

The party should be formed with a view to guard against surprise ; two or three troopers in advance, these supported by a stronger party, a couple of flankers on each side, and a few men as a rear-guard. Secresy being essential, it is advisable to keep the party collected, so that sometimes flankers may be dispensed with if not absolutely necessary.

Before entering a village, defile, or wood, it should be carefully examined by the reconnoiters in front. This is a precaution never to be neglected. In the campaign of 1807 in East

Prussia, a few days before the battle of Heilsberg, the cavalry brigade reconnoitring in front of Marshal Soult's corps entered the village of Kleinenfeld without previously ascertaining that it was free of the enemy. They were immediately attacked in front and rear, and only a part succeeded in cutting their way through, leaving several officers, including their commander, and 30 men killed, 90 wounded, and 116 prisoners.

If the object is to get close to the enemy's main position, high roads and all inhabited places should be avoided. For in a hostile country the inhabitants will quickly spread information of an enemy's movements.

Halts should not be made except when the distance travelled has been considerable, or when absolutely necessary from other causes. They should never be made in inhabited places, but either in secluded spots where surprise is not to be apprehended or on elevated ground where a good view can be obtained. During a halt vedettes should be thrown out and every precaution taken for security. In the beginning of the war of 1870, a reconnoitring party of German cavalry having halted at an inn near Niederbronn, were surprised and attacked by the French, and three officers of the German party killed.

All engagements should be avoided unless the object in view cannot be attained otherwise. Should, however, an inferior detachment of the enemy occupy a point that debars the reconnoitring party from carrying out its purpose, the commander should not hesitate to attack it. If the enemy be met with in superior force the party should fall back to some distance at once, throwing out flankers to guard against being cut off. If the enemy continues to advance the retreat should be continued gradually, watching for an opportunity, if he pursues incautiously, to rapidly fall on him and secure prisoners.

Prisoners often afford valuable information. They usually state truly what they know, either without suspicion of its doing harm to their own people, or from uncertainty as to whether concealment or mis-statement as to the numbers of their own

force, position, &c., would have a beneficial effect or otherwise. Napoleon when in uncertainty about the enemy's movements constantly directed his reconnoitring cavalry to make prisoners with a view to clearing up the situation. Thus in the advance to the Danube in 1805 we find the chief of the staff at Ettlingen writing to Murat that the Emperor 'wishes him to capture a patrol or two, and inform him what the enemy is doing. It is of the greatest importance to the Emperor to know what the enemy is at on the left bank of the Danube.'

Again, in the campaign of the following year, on the eve of crossing the Prussian frontier, we find Vattier's cavalry brigade, attached to Bernadotte's corps, ordered 'to make as many prisoners as it can, to advance as far as possible, and to scour the whole country to procure information.' During the early part of the battle of Waterloo, a Prussian taken prisoner near St. Lambert was brought to the Emperor, and the information obtained from him completely revealed Blucher's movements. On the morning of the battle of Auerstadt, Davoust, uncertain about the movements and strength of the force in his neighbourhood, sent out a party of cavalry with orders to provoke an engagement, to secure some prisoners with a view to obtaining information.

Reconnoitring parties, however, should rarely undertake an engagement simply to take prisoners. If small patrols can be cut off or a vedette surprised, that will usually be the best mode of obtaining them.

If a force of the enemy is observed on the march, the commander of the party, with one or two men, will advance to a point whence a good view of his columns can be obtained, while the remainder keep posted out of sight. The time that each arm takes in filing past any given point will be noted, the breadth of front it is moving on, and the probable rate of march. This will afford an approximate estimate of the strength of the column.

Gaining sight of the enemy's vedettes in the distance should

not of itself deter the party from proceeding farther. Favourable ground should be taken advantage of to approach closer to the position, for even if discovered, the enemy's vedettes, being stationary, are powerless to move in pursuit. So there will usually be time for retreat before the alarm given can impede it. Previous to the action of Beaumont in 1870 the Prussian advanced parties got so close to the enemy that they could clearly distinguish what was going on in his camp.

Points of importance to observe in connection with an enemy's position are—

The strength and composition of the picquets.

Whether posted on a plain, on a ridge, in covered ground, and if entrenched.

If the approaches are open or barricaded.

If the outposts appear vigilant.

If there are guns to enfilade special points.

If the chain of sentries is complete, and all points watched.

If the main body appears to be bivouacked close at hand, or at a distance.

Optical illusions are by no means infrequent with men not practised in reconnoitring. Close observation should therefore when possible be had recourse to, to establish the reality of everything it would be important to report on.

The inhabitants should be freely questioned on any points they may be supposed to possess information, but too much reliance should not be placed on their answers. Even when friendly and willing to give information, they are apt to exaggerate greatly in computing numbers. Questions should be put that would admit of approximately correct inferences, rather than such as would obtain answers based on mere conjecture. For instance, a more accurate estimate of numbers would usually be gained by enquiring the length of time a body of troops took in passing through a village, than by directly asking the person questioned what he assumed the strength of the force to be.

When it is of importance to transmit intelligence quickly,

orderlies should be left at different points to convey back reports according as they arrive from the front.

Horses should be spared to the utmost, as at any moment great exertions may be required of them. Besides, duties of this kind are very fatiguing, and unless cavalry is economised it is quickly worn down. Murat's cavalry, covering the advance of the French in the Russian campaign, was rapidly reduced below half its numbers. And yet Napoleon was always solicitous on this point. In his general orders even, he frequently draws special attention to the necessity of economising the horses. Thus in the Jena campaign we find the chief of the staff, in a despatch dated Sept. 30, 1806, to Marshal Bernadotte, commanding the advanced corps, adding, after instructions for keeping a good look-out towards the enemy, 'L'Empereur désire qu'on ne fatigue pas inutilement sa cavalerie.' Again, in a despatch to Murat, dated October 3, same year, with reference to the movements of the cavalry watching the frontier, he writes: 'Ils fatigueront le moins possible leurs chevaux et les tiendront en état de partir.'

It is advisable that one at least of the party should speak the language of the country, for valuable information may be always gleaned from the inhabitants.

At night the party should move as quietly as possible, and in strict silence. The reconnoiters will usually be called in, excepting those immediately in front, who will, however, be drawn closer.

The commander should explain to his party the object of their work, and the different points to be noticed in conducting it. For in case of defeat or dispersion it is important that any who get back should be able to give information on what has been observed.

The commander should carefully note the features of the country, both with a view to furnishing information thereon, if required, and availing himself of advantageous points to fall back

on. If ordered to report on the country, the following points should be noted.

Roads.—If a main road, its breadth, nature of bottom, state of repair, soil of adjoining country. If there are lateral roads, their nature, whether fit for the three arms, where they branch off, whither they lead, if they pass over heights, through defiles, across rivers, or intersect railways. Whether open ground for encamping, or elevated ground for positions, exist in their neighbourhood.

Villages.—Whether situated on a height, in a plain, a valley, or on a river. Extent of the village, nature of its outskirts, direction and breadth of the streets, size and construction of the houses, public buildings, churches, etc. The nature of the surrounding country, whether open, close, or intersected. How far the whole is defensible.

Woods.—Their nature, extent, shape, how far penetrable, the facility of approach, and roads traversing them ; whether open in the interior, intersected by ravines, marshes, or other obstacles. If they contain houses, or are near high roads or villages.

Rivers.—Breadth, depth, nature of bottom, nature of banks, strength of current, passages, affluents.

Bridges.—Width, length, construction, strength ; if capable of bearing cavalry and artillery, if near a village, hamlet, or house.

Fords.—Direction, depth, nature of bottom, strength of current, approaches at either side, nature of banks.

Heights.—Whether good as defensive positions, and with broad or narrow plateau ; if clear, wooded, level, or undulating ; if the crest line is regular or broken ; what number of troops it would require. If its slopes are gradual or abrupt, wooded, craggy, or difficult to ascend. Its height above the surrounding country.

*MOVEMENTS OF A CAVALRY PATROL IN AN INTERSECTED COUNTRY.*¹ See PLAN V.

A regiment of cavalry 300 strong, covering the advance of a Division, arrives at the village of *D*.

The commander, wishing to examine the country in the angle of the river between *G*, *R*, and *A*, and see if the bridge at *A* is still standing, sends a party of 30 men, under an officer, to carry out this duty. This officer is directed to detach a small patrol to *W*, passing by the village of *E*, with orders to send reports to *D*, where the commander of the whole force will remain.

At mid-day the officer starts with his patrol, detaching towards *W* a non-commissioned officer and 5 troopers.

The letter *a* shows the direction the officer's patrol follows :

An advance guard of 1 non-commissioned officer and 5 men in front, at from 200 to 500 yards, according to the country passed over.

Scouts through the plantation *b* and *c*.

The advance guard halts at *f*, to reconnoitre the village of *G*.

The officer halts the patrol behind *d*, placing a flanker at *e*, and awaits a report from the advance guard.

A report arrives to the effect that nothing can be seen of the enemy.

On this report, the officer moves on *G*, and sends for the head of the village. The latter informs him 'that the evening before a detachment of the enemy, of about 100 troopers, passed through *G* and moved on *A*. Further, that the bridge of *A* was still standing and practicable.'

The officer at once sends an orderly with a report to this effect to *D*.

The officer now detaches two small patrols from his party, each of a non-commissioned officer and 5 troopers.

One he sends to *I*, passing by *V* and *R*. Its orders are to remain there two hours, unless driven in, and then to return to *G* and report.

The letters *o*, *p*, *q*, *r*, show their route ; also the different formations a patrol would assume in a varying country.

For instance, at *o*, on coming to a wood, two men trot quickly through, one at some distance behind the other, but keeping him in view.

The remainder halt outside.

¹ This example is adapted from Lallemand.

The two men learn at a house that none of the enemy are in the neighbourhood, and that there is no ambush to be feared.

One returns to inform the non-commissioned officer, who then takes his party through the wood at a smart trot, riding in file about a hundred yards apart.

The second small patrol is ordered to reconnoitre as far as *H*, passing through *W*.

It follows the line shown by letter *s*.

About half-an-hour after this patrol has started, the officer follows with remainder of party on *H*. The letter *g* shows the line he takes.

He leaves three orderlies at *G*, so that reports may arrive quicker at *D*.

The small patrol originally sent from *D*, through *E*, on *W*, meets, near *W*, that sent from *G*.

They discover that about 100 of the enemy's cavalry are posted in the vines between *W* and *H*.

The non-commissioned officer of the patrol from *G* moves up to the high ground marked *i*, to reconnoitre, and can descry the enemy, as well as one of his patrols, moving on *W*. He at once informs the officer.

The officer comes himself to the point *i*, and clearly sees the enemy on the cross roads from *K* to *H*; but the patrol that was moving on *W* is now falling back.

An orderly is at once sent to the commander of the whole at *D*, with a report of all that has been observed.

The officer continues his look-out from the same point.

Some scouts sent to the front soon return with reports that several detachments of the enemy are retiring from different points on *K*.

The officer having satisfied himself that the enemy is retiring, sends a fresh report to this effect, and adds that he is about following close on the enemy's track.

He accordingly moves his party up to *H*.

Here he learns that not more than an hour and a half ago the enemy passed the ford at *N*, and levied a contribution there.

In the meantime scouts have been examining the vineyard, *k*.

Presently the officer moves his party up to the point *l*, where he keeps concealed until he is satisfied that the enemy has passed the river at the ford near *N*. He then moves to *K*.

From here he sends a non-commissioned officer and six men to watch the ford.

They take post at *m*, and place a vedette where the roads from *K* and *O* meet.

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The officer moves the remainder of the party on *n*.

From there he sends an orderly to *I*, with directions for the patrol there to return to *G* by the same way they had come.

He himself goes close up to *A* to reconnoitre the bridge. He finds it still standing, and no appearance even of any attempt to destroy it.

His work being now at an end he returns to *H*, where he finds a party of 100 cavalry sent to his assistance from *D*, when news reached of the enemy being at *K* in superior numbers.

The whole party then return to *D*.

CHAPTER IV.

(See PLAN VI.).

SPACE AND TIME REQUIRED FOR FORMATIONS.

THE space occupied in different formations, and the time taken in changing from one to another, are points of great importance in making dispositions for the march, and the occupation of positions.

The following data will be found sufficient for most calculations on this head.

INFANTRY.

Each man in front rank occupies two feet.

For length of front occupied by a battalion in line, allow, in addition to the space required for men in the ranks, for 1 officer per company, and 4 in addition per battalion (colour party and officer on left of line).

'Column of fours,' from nature of formation, is equal in depth to the length of line.

'Column' is equal in depth to the front occupied in line, less the front of the leading company. But in calculating *accurately* the depth of a column of companies, it is necessary to add the depth of the rear company to the above. (See *Field Exercises*, p. 109, Plate X.)

The depth of line, including the supernumerary rank, is about 3 yards.

Depth of Quarter Column, in yards, equals five times the number of companies less one, with the depth of one company added.

Between battalions in line 30 paces, or 25 yards, is allowed.

Rate of movement (see *Field Exercise*, p. 17)—

116 paces, or 290 feet, per minute, Quick Time.

165 paces „ Double „

(From these, however, considerable deductions must be made for long distances. Ordinary rate not over three miles an hour, including halts.)

e.g.—The Battalion is assumed to consist of 6 companies, each of 120 men.

The front occupied in line by the battalion will then be—

720 feet for the men.

20 feet for Officers and Colours.

740 feet, or 246 $\frac{2}{3}$ yards.

Depth of 'Column' . . . $740 - 122 + 9 = 627$ feet.

Depth of Quarter Column $5 \times 5 + 3$ yards = 28 yards.

CAVALRY.

Each horse is allowed 8 feet, from nose to croup, and a front of one yard.

Thus Cavalry in line occupies as many yards of front as there are horses in the front rank.

The rear rank is a horse's length from the front rank.

Including all ranks, the depth of a squadron in line from the front of the nose of the squadron leader to the croups of the horses of the serrefiles is 56 feet, or, including 2 feet in front and rear always allowed to each horse, 20 yards.

In 'Fours' (*i.e.*, a front of 8) the depth of the column is the same as the front in line.

In Sections it is double the front in line.

In Half-sections it is four times.

In all the above columns the distance between horse and horse is half a horse's length.

Between Squadron and Squadron in line a quarter of the squadron front is allowed.

The pace of Cavalry: Walk 4 miles an hour—trot $8\frac{1}{2}$ miles an hour.

Thus Squadron of 48 files occupies front of 48 yards. In sections the column would be 96 yards.

ARTILLERY.

Each gun or wagon with 6 horses is 15 yards long. Between gun and gun in line 19 yards are allowed. Each battery of 6 guns therefore takes up a front of 5×19 , or 95 yards.

For purposes of manœuvring, the battery of 6 guns is subdivided into two half-batteries, each of three guns, or into three divisions, each of two guns. Each gun, with a wagon etc. which attends it, forms a subdivision.

In column of divisions, each division follows the one before it at wheeling distance.

Do. do. as to column of half-batteries.

In column of subdivisions each subdivision follows the other at 19 yards from leader's head to leader's head, or 4 yards from muzzle to nose.

In 'Column of Route' each gun is followed by its wagon at 4 yards' distance, and the wagon again is followed at the same distance by the next gun, and so on.

Hence, to calculate the length of a column of route of a battery of 6 guns and 6 wagons, we have—

$$\begin{array}{r} 12 \times 15 \text{ yards for the length of the guns and wagons.} \\ + 11 \times 4 \text{ „ for the distance between them.} \\ \hline = 180 + 44 = 224 \text{ yards.} \end{array}$$

Between one battery and another, and between Artillery and either of the other arms, an interval and a half, *i.e.*, when 6 horses are in each gun ($19 + 9\frac{1}{2}$, or $28\frac{1}{2}$ yards) is allowed.

Suppose a Battalion (as above), 2 squadrons, and a battery

to leave a barrack square, the Infantry leading, the Cavalry bringing up rear, how long will it be before the last trooper moves off, supposing the general pace to be 3 miles an hour? Infantry in fours, Cavalry in sections, Artillery Column of route, not reckoning any intervals on the march.

The Battalion will occupy on march	246 $\frac{2}{3}$ yards.
The Battery	224 ,,
The two Squadrons	192 ,,
	662 $\frac{2}{3}$,,

At 3 miles an hour each mile takes 20 minutes,
and therefore each yard takes $\frac{20}{1780} = \frac{1}{88}$ minute.

∴ 662 yards take $\frac{662}{88}$, or about 7 minutes.

Supposing now that this force is obliged to deploy for action, the Infantry forming up immediately to the left of the road, the Artillery coming into action on the same line to the right of the road, and the Cavalry moving to the right of the Artillery.

If the two last move at a trot as soon as the Infantry is formed up.

The Infantry will not have cleared the front of the troops in rear till they have passed over 246 $\frac{2}{3}$ yards, which will take $\frac{247}{88}$ minutes, or about 3 minutes. The Cavalry must then pass at a trot at *least* the length of the Artillery on the march, and the length of the Battery in action, and, unless the ground is very favourable, will probably also be delayed by the Artillery wagons. They must *at least* move a distance equal to their own front in addition. Therefore, at least, they must, after the Infantry are up, move over—

1. The length of the battery in column of route	224 yards.
2. The interval between the Artillery and Infantry	28 $\frac{1}{2}$,,
3. The length occupied by the battery in action	95 ,,
4. The interval between them and the Artillery	28 $\frac{1}{2}$,,
5. The space occupied by the two squadrons in line (including $\frac{1}{4}$ squadron interval)	108 ,,
	484 ,,

At a trot, 484 yards will take two minutes more. Therefore it

will take five minutes at least for this small force to deploy. If they have to resume their march it will take more than the seven minutes allowed before for moving off from the barrack square, before the whole force is moving along the road again.

Thus, for this small force to form up and resume its march, it will take about a quarter of an hour, supposing no other delays to be caused.

This relation between marching and fighting formations, which multiplies out of all proportion as numbers increase, is one of the most important facts to be remembered in tactical considerations.



CHAPTER V.

MARCHES.

MARCHES being the immediate prelude to fighting, the influence they can thereby exercise over the latter renders their study of importance. The object and requirements in all marches are to bring troops to the right place, at the right time, in the most efficient condition. Celerity in performing a march and efficiency at the end of it must therefore go hand in hand. To ensure efficiency the condition of the men should be such that the ordinary rate of marching does not produce undue fatigue. This is arrived at by previous training, and by reducing to the utmost the weight the soldier has to carry. The length of the columns performing a march will further influence the fatigues attending it. As a column lengthens the pace becomes more unequal, the checks throughout it more frequent, and the time taken in effecting the march longer. All this considerably adds to the fatigues of the march. When the force is large it should therefore, when possible, move on several roads. This will render a greater proportion more rapidly available for immediate action, and facilitate materially the means of bringing up supplies. But as the combined action of the whole is the ultimate object of all marches, dissemination is productive in a greater or less degree of danger. All separation tends to diminish the certainty of conjoined action at any fixed place or time. Hence columns moving by separate roads on a particular point should have their marches so regulated as to ensure their arriving as nearly as possible together. But there is the other possibility of falling in with the enemy sooner, or in greater force than was expected. Therefore, when

in the neighbourhood of the enemy the distance intervening between columns should not be such as to prevent them from affording each other mutual support, nor should there be an interruption of free communication between each. Else they would be liable to be beaten in detail.

At Hohenlinden the Austrians moved in four columns through a forest so dense that intercommunication was impossible. Moreover the march of the different columns was so badly timed that the main body arrived at the outlet long before those on the flanks. The French, drawn up outside the forest, fell on the head of this isolated column, while a detached force attacked it in flank and rear. The result was its total rout, with heavy loss in guns and prisoners. This disaster entailed the retreat of the remainder and the total failure of the enterprise.

Alvinzi in 1797, advancing from Roveredo against the French at Rivoli, divided his force, about 30,000 men, into six columns and moved on six different roads. The right column was separated from the three next on its left by the mountain of Monte Baldo; these were again separated from the fifth column on their left by the heights of San Marco; and this latter was separated from the sixth column, still more to the left, by the Adige.

The march of the fifth column was through a defile some three miles long. On trying to issue from it to the plateau of Rivoli, its head was overthrown and the whole driven back in disorder through the defile. The sixth column, having no means of crossing the Adige, could only intervene with its artillery, and that to a small extent and at a distance. The right column, employed on a wide turning movement, did not come into action till the battle was lost elsewhere. In the meantime the three weak divisions forming the centre were totally defeated by the French acting from their central position.

Yet a certain degree of dissemination, if the force be large, previous to collision with the enemy is of the utmost importance both for convenience in marching and facility of supply.

But the skill and foresight of the commander must contrive that the whole be concentrated for action whenever the moment for fighting arrives.

The distribution of each arm on the march will be influenced by the proximity or distance of the enemy. When he is at hand the order of march should admit of its being quickly converted into the order of battle. The different arms will therefore be placed in the column in the order they would be required to come into action. Modern warfare necessitates more than ever the use of artillery, in the early stages of a fight. Hence therefore its place should be forward in the column. Similarly, the action of cavalry only comes into play when the other arms have produced some effect ; its place on the march would therefore be in rear. (This does not refer to the cavalry covering the advance.) Tactical units should move complete ; that is, the different arms should be within reach of at once affording each other mutual support. Thus if two divisions had to move on two roads, the infantry, cavalry, and artillery of each would move together on each road. But when marching in this order the pace of the infantry must, as the slowest, regulate the whole. This pace is particularly fatiguing to cavalry, and to a lesser extent to artillery. When therefore the enemy is not likely to be met with, it is advisable to move each arm on a separate road.

The number of men rendered non-effective by marching alone, before ever coming into action, demands that every precaution should be taken to reduce to the utmost the fatigues on the march. Troops should not be got under arms sooner than is absolutely necessary to ensure punctuality in starting. Dispositions should be made when possible to enable each regiment or brigade to join the line of march direct from the ground it encamps on. Assembling on particular points previous to marching off, simply for parade purposes, often entails unnecessary movements and requires the men to be under arms at a much earlier hour. This applies particularly to cavalry, which requires all possible care to maintain its efficiency.

When on the march an equable pace should be carefully preserved; that is, if it varies it should vary with regularity. It should be from $2\frac{1}{2}$ to 3 miles an hour for infantry, 4 for artillery, 5 for cavalry. But the length of the column, the nature of the roads, the season of the year, the state of the weather, must all influence the rate at which troops can move.

Regular halts should be observed. The custom on this head varies in different armies. General Craufurd's orders to the Light division directed a halt half an hour after starting and once every hour afterwards. The halt to last at least 5 minutes, or such further time as the commander may direct.

In the Prussian Army the first halt is three quarters of an hour after starting, and when the whole march is under 14 miles (English) there is a second halt of half to three quarters of an hour when half of the march has been completed. When the march exceeds 14 miles there is a halt every 2 hours.

No unnecessary movements should be made preparatory to a halt. Troops should be allowed to rest in the order of march, leaving a part of the roadway clear for traffic.

Halts in villages should be avoided. The portion of a column moving through a village when the halt sounds, should continue its movement and be formed up beyond it.

In the neighbourhood of the enemy no part of a column should halt in a defile. The march should be continued until the whole has debouched on the other side.

Strict discipline should be constantly maintained on the march. Its relaxation is always productive of insecurity. Further, it would admit of slovenly marching that would tend injuriously to lengthening the column. No deviations from the regulations, or no special indulgences, should be allowed without the direct sanction of the officer commanding the whole.

FLANK MARCHES.

A march in which a force exposes its flank to an attack by the enemy is usually termed a flank march. The disadvantage of being so attacked arises from the position of the force being at the moment the least favourable for resistance. But the danger is one of degree, dependent on the closeness or distance of the enemy. For if the enemy be sufficiently distant to be unable to reach you before your movement is completed no danger exists. A flank march therefore may be only said to be dangerous when it is made within striking distance of the enemy. Napoleon has said that nothing is so rash as to make a flank march in front of an enemy in position. Still flank marches are often convenient and sometimes necessary, and with proper precautions their danger may be materially diminished.

The first of all requisites for an undertaking of this kind is highly drilled and disciplined troops. Next, considerable marching power, vigilant and energetic commanders, and great forethought in the dispositions for the movement. Power of rapid marching is indispensable, as the situation being one of danger cannot be too quickly got rid of. Also such an operation, being usually undertaken to reach a position in which it is of importance that the enemy should not forestall you, the least time spent over it, the least chance of interruption. McMahan's march to Sedan was a flank march as regarded the army of the Crown Prince. The attainment of his object, a junction with Bazaine, essentially depended on rapidity of movement. This his force was incapable of from its wretched organisation. Headed and attacked in flank, instead of rescuing Bazaine it was forced to fight for its own existence, and the disaster of Sedan was the consequence.

An attack in flank is best guarded against by moving a detachment parallel to the line of march between the enemy and the main body. In addition to guarding the latter

against surprise and giving time in case of attack, its position enables the main body to move with a sense of security that no groundless alarms about the enemy should disturb. The evils likely to arise from a neglect of this precaution are well illustrated in the disorder attending Prince Hohenlohe's flank march between the Saal and Elster previous to the battle of Jena.

In a close or intersected country these detachments would be mainly composed of infantry, but in an open country sufficient cavalry should be added, to reconnoitre still further to the exposed flank. But the detachment should rarely be composed entirely of cavalry, as it may be at any moment required to defend the ground it is moving on—a course unsuitable to cavalry action. These detachments should adopt all necessary measures for their own immediate security, having advanced guard, rear-guard, and flankers. The flankers would consist of a loose line in single file, or small patrols, moving at a distance from each other and from the column that must vary with the nature of the country. There should be a special commander for the whole detachment, who should have clear instructions as to the direction and object of the march, the general course he should adopt in case of attack, and how far he is allowed to act on his own judgment in any contingencies that may suddenly arise. This provision for security in the direction in which the enemy is known to be, does not do away with the necessity of having an advanced guard for the main body. For if the enemy discovers the march he may make dispositions to fall on the head of the column. Thus the French at Rossbach, moving to a flank without an advanced guard, came so suddenly on the Prussians moving to meet them, that the heads of their columns were overthrown before they could either deploy for attack or form up for defence.

The route to be followed should be carefully reconnoitred beforehand, and if it contains a defile it should be occupied, if any obstacle it should be removed. For if the column were headed and attacked in flank at the same time, its position would

become one of great danger. Had Massena found the defile of Boyalva occupied in his flank march after Busaco, a second battle might have been fought with very different results.

The number of columns used, and the place of the different arms in each, will be so influenced by the conditions on the spot that no rule can be laid down for unvarying application. The guiding principle should be to combine rapidity of movement with readiness for fighting. The formation of several columns admits of more rapid progress, more united command, and more facility for manœuvring. But they should march within easy reach of each other, advancing in succession from the inner flank. They will then be enabled to come rapidly into action, whether attacked in front or flank. If the cavalry is formed in one column it should move on the flank furthest from the enemy, as, if on the other flank, were it attacked it might be driven in disorder on the infantry before the latter had time to form up. The artillery may be divided between the head and rear of the column, as thus part will be at hand should the enemy be encountered in front, and the whole more free to manœuvre and afford general support if he attacks in flank. In Marmont's flank march to turn Wellington's right on the Guarena, 'he so skilfully managed his troops that he furnished no opportunity for even a partial attack.' Yet he not only turned their flank but he completely outmarched his opponents.

Should defiles or other defensible points of passage exist on the exposed flank, they should be observed and if possible guarded until the danger is over. In the flank march to Sedan the defiles of Grand Pré and Croix aux Bois were left unoccupied. This neglect was sought to be remedied by the commander of the right column when he discovered it. But the enemy was already in such force there that the detachment was itself endangered, and instead of holding the defile it became necessary to divert the remainder of the corps to disengage it. The possession of these defiles by the enemy was the beginning of the disasters that subsequently attended the march.

Marshes, streams, and ravines, and such obstacles should be kept on the side nearest the enemy, and all advantage taken of ground to keep the movement, if possible, concealed.

NIGHT MARCHES.

Night marches should only be had recourse to when the object sought cannot be so well attained in any other way. They are much more fatiguing, very liable to straggling and disorder, the different columns are apt to lose their way, and the troops are never so fit for action the day following. Yet they are sometimes a necessity, and then every precaution should be taken to diminish the evils attending them. No precaution necessary for safety by day should be omitted by night, and certain others in addition are indispensable. Each column should if possible have a guide, and at all cross-roads non-commissioned officers or intelligent men should be left behind to warn the next party of the right track to follow. This will admit of greater intervals occurring between parts of the column, which it is often impossible at night to avert, and thus considerably lessen the fatigues of marching. When the intention to march has been known in time, landmarks may be established beforehand along the routes. These, however, should be such as would be easily discernible, and strong enough to defy inclemency of weather. In Sir John Moore's night march from Lugo in 1809, bundles of straw had been previously placed at certain distances as landmarks, and special guides appointed to the columns. But a heavy storm of wind and rain coming on the marks were destroyed and the guides lost their way. Only one out of the three divisions kept the right road, and though the march was begun at ten o'clock at night, at daybreak the following morning the rear columns were still near Lugo.

Night marches are productive of great straggling, so that frequent halts are advisable to ensure as few men as possible remaining behind. Certain hours rather than places should be fixed

Formation to be Strictly Preserved during Halts. 67

for halting, as accidents may materially prolong the time for arriving at any special point. During a halt scattering of any kind should be most carefully guarded against, and nothing allowed that would for a moment disturb the formation of the march. During the night march above quoted, a General of division gave his men leave during a halt to take refuge from the weather in some houses a little way off the road. Complete disorganisation was the result. From that moment it became impossible to make the soldiers of the division keep their ranks, and the loss of men in this march was greater than in all the former part of the retreat.

Detached parties, even for purposes of security, should be avoided as far as possible, as they are apt to lose their way or cause delay in rejoining the column. Also there is always the danger of their causing alarm by being taken for the enemy, and sometimes of firing or being fired on by their own people. In Wellington's night march from Hornillos to Aldea Rubia on July 20, 1812, his cavalry, who had been covering the movement, were, on coming in, mistaken for the French, and several of them shot down before the error was discovered.

But the men should not, as a rule, be loaded, as night actions are much more effectively conducted with the bayonet. Besides, even the accidental discharge of a rifle may lead to excitement that would end in a panic. A notable instance of this was the panic caused in Prince Taxis' cavalry division during its night march from Fulda to Bischofsheim in 1866. It occurred through a few shots being fired by poachers in the neighbourhood of the line of march. Though there was no enemy within from 10 to 15 miles at the time, yet the panic was so complete that some of the party did not halt till they reached Wurzburg, a distance of nearly 50 miles.

EXAMPLE OF A FORCE WHEN MARCHING DISUNITED, MEETING THE ENEMY, AND BEING DEFEATED IN DETAIL.

Action of Gross Beeren, August 23, 1813. See PLAN VII.

In August 1813, Napoleon, on the Elbe, detached a force under Marshal Oudinot against the allies covering Berlin, with a view to gaining possession of that capital. This force was composed of the 4th, 7th, and 12th Corps.

Oudinot arrived on the 21st at Trebbin, and on the 22nd, after a sharp encounter with the enemy's advanced guard, forced the defile of Thyrow, and took up the following position :

4th Corps at Jühndorf.	
7th Corps } „	Kertzendorf—Löwenbruch.
Cavalry }	
12th Corps,,	Trebbin—Thyrow.

The position of the enemy on this day was :

The Swedes and Russians	at	Gutergotz—Ruhlsdorf.
Bulow's Corps	„	Heinersdorf.
Tauenzein's,,	„	Blankenfeld.

The country separating these two forces was wooded, hilly, and in parts marshy. It was traversed by three roads, passing by Blankenfeld, Gross Beeren, and Ahrensdorf. Between the two first no lateral communication was possible, and the ground between the two last could only be traversed by infantry. A force divided between these roads could not therefore, if attacked, combine for united action, nor could even one column arrive rapidly to the assistance of another.

On the 23rd Oudinot continued his advance.

The 4th Corps	on	Blankenfeld.
7th „ „	„	Gross Beeren.
12th „ „	„	Ahrensdorf.
Cavalry „ „	„	„

The 4th Corps attacked Tauenzein at Blankenfeld, but failed to force his position.

The 7th Corps came on Bulow's advanced guard at Gross Beeren, which it attacked and drove in. But Bulow, advancing from Heinersdorf, now fell on the French with greatly superior numbers, and de-

feated them with a loss of 3,000 men, before support could reach from either side.

The 12th Corps arrived at Ahrensdorf and suspended its movement on hearing the firing, uncertain what course to take. The firing becoming more intense, two of its divisions were moved towards the battlefield, but only arrived at nightfall to check the pursuit of the enemy.

The 4th Corps having fought all day at Blankenfeld had now to be withdrawn, and the whole force retreated on Wittenberg, the movement on Berlin having entirely failed.

Napoleon remarking on this event says, 'The Duke de Reggio did not understand *falling on* the enemy, and he skilfully contrived to engage his corps separately.'

Jomini says, 'It would be difficult to say what the Marshal intended in thus engaging his forces in a country intersected with woods and marshes, where no lateral road permitted of the columns being united. Nothing was arranged for a battle, which doubtless Oudinot did not expect.'

Yet the presence in force of the enemy could not have been doubted from the severe advanced guard actions of the two previous days.

*EXAMPLE OF AN ATTEMPT TO EFFECT A FLANK MARCH,
WITHIN REACH OF THE ENEMY, DEFEATED.*

Dennewitz. See PLAN VII.

On September 4, 1813, a French force under Marshal Ney held the following positions round Wittenberg :

4th Corps	...	Wiesigk.
12th "	...	Tragun.
7th "	...	Teuchel.
Cavalry	...	behind Tragun.
Detachment	...	Camin.

Opposed to the French was an allied force under the Crown Prince of Sweden covering Berlin :

The Swedes	...	Rabenstein.
Russians	...	Plighof
Bulow	...	Marzahne—Köpenig.
Tauenzein	...	Seyda—Zahna.

Ney was ordered to join the Emperor with his whole force at Baruth on the 6th for a combined movement on Berlin. He determined to march by Jutterbrock and Dahme.

Setting out on the 5th, he retained the 12th Corps on the heights of Tragun to screen the movement, while he pushed the remainder on Seyda, driving Tauenzein's Corps behind Dennewitz.

The French halted that night

12th Corps	...	Seyda.
7th	„	... Zalmsdorf.
4th	„	... Neuendorf.

Bulow, informed of this movement, supposed at first that the French were going to take up a position behind the Elster. But on its true nature becoming apparent from the serious attack on Tauenzein, the allies made a corresponding movement to their left to attack the French.

Bulow on Kurz Lippsdorf, where he arrived that evening.

The Crown Prince, with remainder, by Lobessen, in second line, on Lippsdorf.

Bulow was now so close to the French left, that no fires were allowed, and all noise suppressed that would alarm the enemy. Early the following morning the Prussians took up a defensive position at Eckmannsdorf, expecting to be discovered and attacked.

The French resumed their march the following morning without the least suspicion of the vicinity of the Prussians, and without even sending a single patrol in their direction.

4th Corps	on	Dennewitz.
7th	„	„ Rohrbeck.
12th	„	„ Ohna.

The 4th Corps started at 7 o'clock, the others in succession at an hour's interval. Thus the advance was made in echelons from the flank nearest the enemy.

The 4th Corps came on Tauenzein in position behind the defile of Dennewitz, and at once attacked him.

Bulow, awaiting this movement, moved down by Welmsdorf on the left of the enemy, now isolated, outnumbered, and outflanked.

The struggle was maintained by the French for four hours, until the arrival of the 7th Corps, and later on the 12th partly restored matters. But the Crown Prince of Sweden arriving with the main body of the allies by Eckmannsdorf, on the left flank and rear of the French, brought the action to an end in their complete defeat. Cut off from Wittenberg,

and the Corps separated from each other, part were driven on Schweinitz, part on Dahme, with a loss to the whole of some 15,000 men.

Jomini remarking on this movement says: 'Ney found himself attacked on the march when he least expected it. His dispositions were so disconnected and even so curious, that his right wing fought on the left, and his left on the right; which sufficiently proves how unforeseen was all that occurred. His own report, far from throwing light on his combinations, only makes them incomprehensible. He meant, he says, to refuse his left, yet he marched at its head and made it his advanced guard. He was bent on manœuvring, yet everything shows that he had not the least idea of the enemy's position. It should have been known that the Prince of Sweden was across the road from Wittenberg to Berlin by Potsdam, and that in this movement the left flank was laid open to him. Still no measures were taken to guard against an attack on that side. If this was unknown the fault was inexcusable, as the enemy had been in that position for twelve days.'

*EXAMPLE OF A FLANK MARCH SUCCESSFULLY CARRIED OUT
WITHIN REACH OF A SUPERIOR FORCE OF THE ENEMY.*

Belfort, January 1871. See PLAN VII.

In the beginning of January 1871, a German force under Von Werder, posted about Vesoul, covered the siege of Belfort.

A French army under Bourbaki was at this time concentrating behind the Doubs, between Dole and Clerval.

On the 2nd Bourbaki crossed the river, and moved his four Corps on Villersexel.

On the 5th the heads of these columns came against the German outposts south of Vesoul.

On the 6th Von Werder concentrated his force on Vesoul.

The relative strength of the French and German forces opposed to each other was about as five to two.

The German commander was uncertain as to the exact intentions of Bourbaki—whether he meant to move directly on Belfort, or passing it by to the west of Vesoul, operate in a northerly direction towards Nancy.

Von Werder's instructions were precise. He was to cover the siege of Belfort at all costs. If the enemy moved directly on it, he was to hold him in check until the arrival of two Corps then moving to his assistance. If he passed it by to move north, he was to attack him in flank and rear.

He accordingly held on to his central position at Vesoul, so as to effectively meet either contingency.

But now the French at Villersexel were within half the distance of Belfort that the Germans at Vesoul were. Moreover, to reach Belfort the latter would have to move across the French front within a short march. On the other hand, if the French moved from Villersexel to Belfort, the Germans might fall on their flank too. But the country the French were moving through was hilly, and the defiles defensible, so that while the Prussians were wasting their strength against a part of the force, the remainder might continue its march and gain Belfort.

7th. All reports tended to establish that the French were moving direct on Belfort.

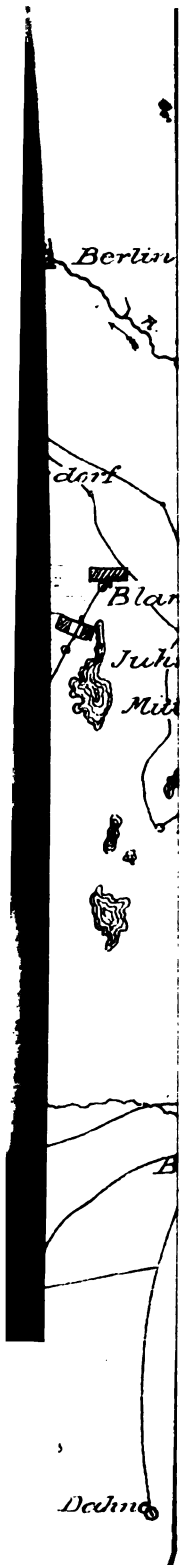
Von Werder determined to make a flank march to gain the strong position Frahier, Hericourt, Montbellard in front of Belfort, and head the enemy. In carrying out this he arranged to make a dash at the enemy towards Villersexel, alarm him for his flank and rear, and so delay his advance.

8th. Fourth Reserve Division from Vesoul to Nancy to attack Villersergal. Cavalry watching enemy's movements from Montbozon to St. Ferjeux.

9th. Fourth Reserve Division, } to Villersexel.
 Von der Goltz's Detachment, }
 2 Brigades, } by Vy-les-Lure to Athesans.
 Corps Artillery, }
 1 Brigade to Ronchamp.
 4 Battalions, } Vesoul, to mask departure of remainder.
 2 Batteries, }

The 4th Division drove the French out of Villersexel, but the latter, bringing up strong reinforcements, resumed the contest. Von Werder stopped the movement of the two brigades on Athesans, and brought them up to Villersexel. A vigorous action was maintained all day, during which portions of all four of the French Corps became engaged, and ended at nightfall with the Germans still holding possession of the town.

This action stopped the advance of the French, and drew a large part of their force to the scene of the engagement, and so attained its object. In the night the Germans fell back from Villersexel, holding it only by outposts. The following morning Von Werder resumed his flank march, moving in three columns by Athesans on Hericourt, by Leval-Beverne, on Luze, and by Ronchamp to Frahier. The whole force arrived next day in the position Frahier—Hericourt—Montbellard.





CHAPTER VI.

ADVANCED GUARDS.

IF troops on the march moved in one body they would be liable to come suddenly on the enemy, when the head of the column may be overthrown before time or space admitted of the rear forming up to support it. Even if the enemy were not met in force, yet his small advanced parties might at any moment compel the whole column to halt while measures were being taken to disperse them. Hence some disposition becomes necessary to obviate the recurrence of such halts, as well as to delay the enemy sufficiently, if met with in force, to prevent the main body being taken at a disadvantage. This is provided for by detaching a portion of the force in front of the remainder as an advanced guard.

The duties of an advanced guard have hitherto been twofold, searching for the enemy and engaging him when met with. But modern warfare has to a great extent separated these two duties. Independent bodies of cavalry pushed far in advance, now search out the enemy and report on his movements, while their presence in front of the main body becomes a guarantee that no hostile force exists in the interval. Hence the extent of reconnoitring hitherto devolving on the usual advanced guard has been considerably lessened, and an organisation for fighting ceases to be essential as long as it is certain that the enemy is out of reach. Under these circumstances the strength may be reduced to what is simply necessary for observation.

But as it must be expected that the enemy on his side will have his cavalry out too, and in contact with his opponent's,

screening the movements of his main body in rear, it will be frequently necessary that strong detachments of the other arms be pushed forward in support of the reconnoitring cavalry. This duty will fall on the advanced guards. Thus in the march of the German Armies to the Moselle in 1870, the cavalry was ordered 'to be sent forward to a considerable distance, to be supported by advanced guards thrown out well to the front, so that should the necessity arise, each army may have time to close up.' In this case the advanced guard would have necessarily a fighting strength and organisation.

But circumstances will arise when independent cavalry detachments do not cover the front of a force on the march. Such was the case with the Prussian IIIrd Army in its advance to the Saar in 1870, also with the Prussian IInd Army moving into Bohemia in 1866. Here, then, an advanced guard should be organised both to fight and reconnoitre. For the first it should comprise all three arms, and so have complete tactical independence, for the second it should be well provided with cavalry. But the proportion of each arm will be further influenced by the nature of the country moved through and any special object had in view.

The strength of an advanced guard will bear a relative proportion to that of the whole force, the principle being observed of reducing it to the minimum adequate to its object. For all detachments from the main body, even of a temporary nature, impair, more or less, unity of action in the whole when the crisis arrives. So, the fewer troops removed from the immediate control of the commander, the more effectively should an engagement be entered on when the enemy is met with. Yet the tendency has been in recent warfare to increase the strength of the advanced guard till it became in some cases the first line of battle. Thus we frequently find in the war of 1870 half of the whole force, and never less than a fourth, pushed to the front as an advanced guard.

Successful practice must always override antagonistic theory.

The use of large advanced guards by the Germans in the two last wars, whatever objections they may be seemingly open to, cannot be condemned by contrast with any other more successful organisation. Hence the adoption of the principle has become very general in other European armies. But it may be well at the same time to point out some of the attendant disadvantages.

An advanced guard comprising as much as a fourth of the whole force would require that a considerable amount of discretion be allowed to its commander in engaging an action, else there would be no object in giving him so large a force. But if an engagement of this dimension were to be entered on, it would seem more proper that the decision and arrangements for doing so should rest with the commander of the whole. Otherwise, what so often happened in the battles of 1866 would occur again; the Commander of the Advanced Guard would engage an action beyond his powers of bringing to a decision, and so endanger his force as to require the intervention of the main body. But if that intervention is to take place, the mode of its application should originate with its commander, and not depend, as it otherwise would, on how the advanced guard had committed itself. And it cannot be asserted that these disadvantages did not make themselves felt also in the war of 1870.

If on the other hand the commander of the whole were to accompany so considerable a portion of his force, there would seem little ground for allowing an important interval to separate it from the remainder. For if an engagement took place it would be an unquestionable advantage to have the whole at disposal from the outset. An instance, amongst others, in proof of this was afforded by the 5th Prussian Division at Mars la Tour. This division marched from Noveant to Flavigny with one brigade, the cavalry, and one battery as advanced guard, the other brigade, with the 3 remaining batteries, following as main body. The advanced guard came on the enemy between Gorze and Flavigny, and at once attacked him. But the latter was in superior force, and pressed so hardly on the advanced guard before the main

body arrived to help it, that the leading battalion of the latter had to be thrust into action without deploying, to endeavour to check the enemy's pursuit. But this battalion, as well as the troops (of the advanced guard), defeated for want of timely support, are described as suffering 'fearful losses.' And had the French been more on the alert, each brigade might have been beaten in detail.

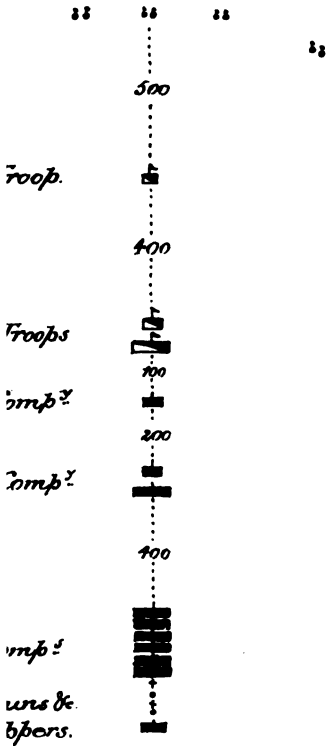
Again, if a delaying action only were required of an advanced guard, the power of modern fire-arms would rather favour a diminution than an increase of force. For their effect has unquestionably been to augment the tenacity with which a small body can hold its ground against a larger one.

Though the principle of large advanced guards may hold good when the whole force is large, it does not continue to be applicable with a small one. For in the former, the party detached is so considerable as to insure prolonged resistance in a defensive position, and hence the certainty of eventual support, while in the latter such a subdivision might be fatal from the weakness in which it would leave both parts. For when a small force has to fight an action in which it may all become engaged, its only chance of success is to fight concentrated. So it may be assumed that the proportionate strength of an advanced guard would diminish as did that of the whole force; the smaller the force the proportionately stronger should the main body be preserved. For a large force therefore, such as a division, the proportion for the advanced guard would be about a fourth, and as the force becomes smaller it may be reduced even to an eighth.

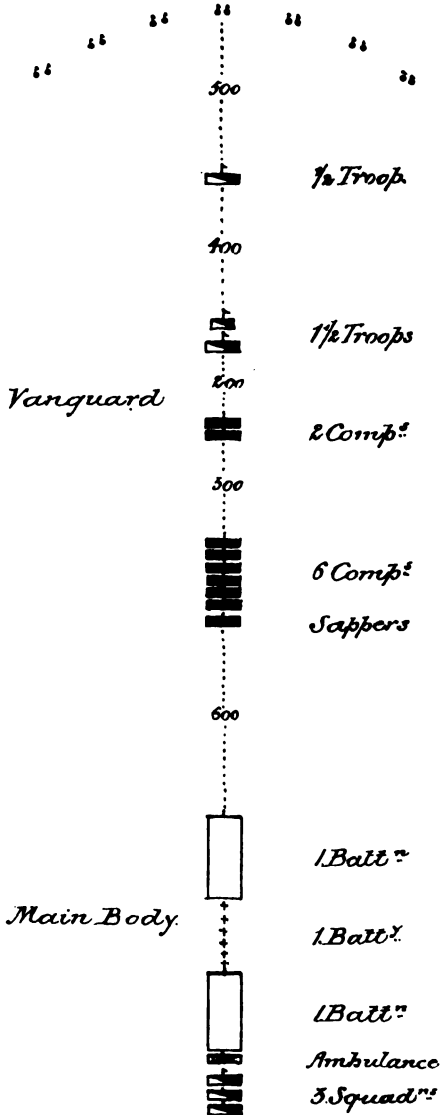
For purposes of security, and reducing as much as possible the fatigues of the duty, the advanced guard is subdivided into an advanced or reconnoitring party, and a main or fighting body. The advanced party, which may be conveniently termed the Vanguard, is formed of cavalry and infantry. Guns are only added in special cases. The great mobility of cavalry specially fits it for being at the head, as it can push further to the front, reconnoitre more widely to a flank, and retire out of danger more

Formations of Advanced Guards. Pl. VIII

*A small force consisting of
3 Battalions of Infantry.
1 Squadron of Cavalry.
Guns with Wagons.*



*A large force consisting of
5 Battalions of Infantry.
1 Regiment of Cavalry.
1 Battery of Artillery.*



Note. Distances in Yards.



rapidly than any other arm. For all reconnoitring purposes therefore cavalry will be almost solely made use of. For were infantry to be employed in examining suspicious places on the front or flanks, the time required for doing so would so seriously impede the progress of the main body as to practically bring it to a stand-still. In addition, the labour to the infantry would be excessive. When therefore the country is favourable to its action, the cavalry, with the advanced guard, will usually move at its head.

A number of small patrols would be pushed to the front, each consisting of two or three troopers. In a fairly open country three or four patrols would cover a mile of front, followed at some four or five hundred yards in rear of the centre by the party furnishing them, usually about half a squadron. Similar detachments would be sent out to the flanks, both to secure safety in that direction and to guard against the enemy's patrols working round and supervising the line of march. Further to the rear will move the bulk of the cavalry, usually on the main road, or partly disposed in support of the flank detachments.

As the cavalry may at any moment be arrested by small parties of the enemy's infantry, it should be closely supported by a portion of the infantry of the Vanguard. As the part so advanced would usually be sufficient for this purpose, the remainder would follow at a certain interval, and keep out of fire unless required to take part in the engagement. If guns were attached to the Vanguard, they would usually move in rear of the infantry.

The business of the reconnoiters at the head of the Vanguard is to ensure that the line of march and its neighbourhood is clear of the enemy. For this purpose all ground that would afford shelter, such as woods, villages, etc., should be carefully examined. The different patrols should maintain a general connection between each other and the party furnishing them. Anything observed about the enemy should be immediately reported to the Commander of the Vanguard, whose position should therefore be previously signified to each patrol.

All reports transmitted by the Commander of the Vanguard should have their accuracy, as far as possible, first tested. If they relate to the presence or movements of the enemy, they should particularise the strength and composition of his force, the direction in which it is moving, its distance at the time of observation, and all points in fact that it would be important for the commander of the main body to be enlightened on.

The Vanguard, so constituted, provides for safety from surprise, concealment of the march, and information about the enemy. Its business is reconnoitring. Should the enemy be met with in superior force, or should his main body be suddenly encountered, then the Main Body of the advanced guard is at hand to give support. Its business is fighting.

The Main Body follows the Vanguard at a distance varying with the strength of the whole. This distance would seldom exceed from 500 to 600 yards. Its mission being solely to fight, if required, the different arms of which it is composed would be so distributed as to come quickly into action with most advantage. Artillery prepares the attack of infantry and compels the enemy to deploy at a distance ; its place should therefore be rather forward. But it should not be exposed to risk through a sudden reverse of the vanguard, and would not therefore ever be placed at the head of the Main Body. Some infantry should always precede it.

As a rule, all the artillery would move with the Main Body, but sometimes part would be attached to the Vanguard, where the front is restricted and the country hilly. For the enemy may then bring his guns to bear from advantageous points at a distance, and they would have to be dealt with before the advance could continue. In such a country this forward position would not entail much risk, as the enemy could not advance on a wider front than that occupied by the Vanguard. But this disposition must be looked on as exceptional, and under ordinary circumstances little advantage could be gained by it. For the delay in bringing guns into action from the Main Body would be too

trifling to materially influence what was taking place in front. Guns will therefore, as a rule, march united, and with the Main Body of the advanced guard.

The cavalry not employed in front will usually follow at the rear. Placed more forward it may impede the infantry in coming into action, while its mobility will enable it to move rapidly forward if required.

A party of engineers should form part of the advanced guard, as otherwise a broken bridge or other obstacle, rapidly removable by skilled labour, may seriously delay the advance. They would either in whole or part accompany the Vanguard, as when their services are required all delay should be avoided. Those not marching with the Vanguard would move in rear of the Main Body.

The flanks of the line of march will be usually secure if the patrols from the Vanguard have been sufficiently extended. In a mountainous or hilly country infantry detachments may have to be moved along the heights bordering the line of march. But this is only possible where the heights are but little broken, as otherwise the delay and fatigue of descending and reascending will make these detachments fall rapidly to the rear. Important points may be temporarily occupied by detachments, while the column files by, who will then follow in rear of the whole.

The interval that should exist between the head of the advanced guard and of the column it is covering is also a very variable quantity. A rough rule has been hitherto accepted, that the distance must not be less than will enable the column to form for action before the enemy can attain it. As the time taken by the rear to form on a level with the head will depend on the length of the column, the interval would therefore be determined by this space. And as a rough rule this may still hold good, always subject to modification to meet existing exigencies.

If the enemy be met with in force, the most favourable ground at hand would be at once occupied with a view to checking his

advance. To what extent its defence should be prolonged must depend on whether the commander of the main body wishes to fight on this ground or on some position in rear. In the latter case the advanced guard should fall back, slowly disputing the ground to the last with the enemy. Should it be attacked on debouching from a defile, and while the main body is still traversing it, then it must sacrifice itself to the last man if necessary, to keep possession of the outlet.

The Commander of the Advanced Guard is responsible that no precautions are neglected for obtaining information of the enemy and securing the safety of the march. As his duties require that considerable discretion be allowed him, his instructions can only be very general. Yet he must be certain that he appreciates their spirit, and that all his movements are guided by considerations for the main body, and not with a view to petty successes by the advanced guard. One of his chief duties being to prevent the main body from being attacked, or even interrupted in its march, he should not dally with the enemy's small parties, but at once attack and disperse them. Yet on the other hand he must be careful how he becomes seriously engaged, or involved in any enterprise not strictly in accordance with the known plans of his commander. The tendency to independent action of this kind was very observable in the early battles of 1870. Actions were hastily entered on by advanced guards, maintained with varying success by the gradual arrival of fresh troops, and finally concluded with the barren results of a defeated enemy getting off with no further loss than that incurred during the action—usually less than that of the victors. Spicheren, Worth, Colombey, are all instances. At Spicheren the advanced guard of the 14th Prussian Division commenced the battle, which had to be sustained for three hours by 11 battalions against 39. During the next three hours 8 more battalions came up, and at the end only 27 battalions and 10 batteries had in all come into action. Yet on the morning of the battle there were two French corps within easy reach of the one engaged, and had

they marched to the cannon, as the Germans did, the battle must have had a different ending.

At Worth the Crown Prince had no intention of fighting on the 6th. The battle was brought about by the advanced guard of the Vth Corps. This led to the Bavarians, on their right, becoming engaged, and when the Crown Prince sent word to break off the action, and 'avoid everything that might induce a fresh one,' it was found that the advanced troops had become too seriously committed to admit of this being effected. Happily the disposition of the remaining corps d'armée, in anticipation of a battle next day, allowed of their being moved forward with sufficient rapidity to take part in the action. Their overwhelming superiority finally prevailed, but the early part of the battle went decidedly against the Germans.

The battle of Colombey was commenced by the advanced guard of the VIth Prussian Corps, contrary to the intention, and indeed the spirit, of the orders of the Commander of the 1st Army. To support it the advanced troops of the neighbouring corps (1st, and IXth,) were gradually drawn into the fight. When the Commander-in-Chief arrived on the ground and ordered the action to be broken off, it was found that here also the troops engaged were too committed to be withdrawn. Thus it became necessary to make immediate dispositions for engaging the whole of the 1st Army in a battle which its Commander had not only not initiated, but in fact disapproved of.

Nor could this action, as that of an advanced guard, be in any way accounted judicious, even had it been more successful; as, for all practical purposes, it could not have taken the Prussians nearer to Metz than they were already. And though its actual effect was to temporarily retain on the right bank of the Moselle a larger force than the enemy intended to keep there, yet it cannot be said on that account to have really delayed their retreat, as subsequent events proved them to have been in no hurry in effecting it. For had the French wished to press their march they could not be prevented by being compelled to fight

in force on the right bank, as the line of forts would have fulfilled the purpose of holding the enemy in check as effectually then as it did later on. The French halted and turned to fight because they were in no hurry to retreat, and even two days later we still find them loitering within a few miles of the fortress.

That the Germans suffered no reverse in either of these engagements does not on that account invalidate the principle involved. All unauthorised enterprises by the Commander of an Advanced Guard that would impose a course of action on his superior which the latter has not initiated, should be avoided. For such, if permitted, would remove from the Commander that power of deciding when and where to fight which no subordinate should encroach on.

Again, when an action is once begun its general direction should lie from the outset with the officer entitled to carry it to an issue. For as there are different ways, even in war, of attaining the same or similar results, a Commander arriving in the middle of an action would possibly find the troops engaged with a view to attaining special ends that he may not immediately understand. And this might naturally lead to his entering on other plans instead of prosecuting those already half attained. Thus at Spicheren the chief command changed hands thrice during the fight, falling in turn to three different officers, who succeeded to it on reaching the ground by right of seniority; while the Commander-in-Chief of the Army to which the main part of the force belonged only arrived in time to witness the end of the battle.

Finally, actions of this kind interfere with troops being employed in the most advantageous manner. For when a small force is engaged against a larger one it becomes necessary, as reinforcements arrive, to move them to support some point already hardly pressed. Thus the whole gets successively used up and disseminated, instead of being employed collectively where an effective blow may be struck. This is in a manner to

Prussian Advanced Guards at Worth and Colombey 83

surrender the direction of the fight to the enemy rather than to grasp and guide it oneself. Such was the case at Spicheren and Colombey. The French positions were so strong that the German reinforcements as they arrived were frittered away in support of the troops already engaged, and whose state during the action was frequently very critical. At Colombey the battle resolved itself into a desperate struggle along the front of the French position, where the Prussians made little impression while their losses considerably exceeded those of their opponents.

EXAMPLE OF AN ADVANCED GUARD HOLDING IN CHECK A SUPERIOR FORCE OF THE ENEMY.

Action of Nachod, June 27, 1866. See PLAN IX.

IN the advance of the Prussian Armies into Bohemia in 1866, the vth Corps (Crown Prince's Army) had to traverse the defile of Nachod.

The head of its advanced guard occupied Nachod on the evening of the 26th, and it was intended that the march of the following day should bring the remainder of the Corps also to that point.

The general commanding (Steinmetz) reached Nachod about 8 A.M. on the 27th, and found that the advanced guard had pushed on to the junction of the roads to Neustadt and Kleny, without meeting the enemy.

He accordingly ordered it to bivouac on the Wysokow plateau, and send a squadron along the roads towards Skalitz and Neustadt to reconnoitre.

Strength of advanced guard :—

Vanguard	.	{	2½ battalions
			2 squadrons
			6 guns
Main Body	.	{	4 battalions
			3 squadrons
			6 guns
			1 company pioneers.

The advanced party alone had moved up to the plateau—the main body was halted at Altstadt.

On this morning (27th) the Austrian 6th Corps (General Ramming) had set out from the neighbourhood of Opcno, as follows :

Hertwek's Brigade	. . .	by Neustadt on Wysokow.
Jonak's	„ . .	by Wrchowin on Kleny.
Rosenzweig's	„ . .	by Lhota on Skaliz.
Waldstatten's	„ . . .	„ Skaliz.
Reserve Artillery	. . .	„ Rikow.

The Prussian squadron sent to reconnoitre along the Neustadt road, signalled the head of Hertwek's Brigade approaching Wrchowin about 8 A.M.

The main body of the Prussian advanced guard was now at once ordered up to the plateau.

The advanced party was posted as follows :

- 3½ companies west end of Wysokow.
- ½ company of Rifles in wood north of Wenzelsberg.
(reinforced later on by 4 companies from Altstadt.)
- { 4 companies in Wenzelsberg and wood to east.
- { 1 battery „ „

Hertwek's brigade, on issuing from Wrchowin, diverged to the left and moved on Sonow. When it had passed that village it formed to its right, in two lines, and its battery came into action.

At 9.15 it advanced to attack—the left against the village of Wenzelsberg, the right against the small wood to the east of it.

The right was driven back with loss to the ravine.

The left established itself in the Wenzel church.

Hertwek now relieves the right of his first by his second line, and with the latter still holds the ravine.

In the meantime 4 half battalions from main body of advanced guard came successively into action on the Prussian left.

Hertwek's troops holding the ravine, were thus taken in flank and rear, and obliged to fall back.

His battery had already been forced to retire to a position south-west of Sonow.

He now re-forms his brigade behind Sonow—still holding the Wenzel church with a strong detachment.

In the meantime two more Austrian brigades (Jonak and Rosenzweig) had come up.

Jonak at once sent his battery into action to support Hertwek, and formed his brigade in two lines between Sonow and 'Manor

And Advanced Guard holding Enemy in Check. 85

house' to the east of the road. Rosenzweig forms in two lines on his left.

At this time the whole of the Prussian advanced guard, with the exception of 2 half battalions still at Atstadt, were occupying the plateau between Wysokow and the 'Forester's hut.'

Wnuck's Cavalry Brigade was the only reinforcement yet arrived from the main body.

At about 11 o'clock the Austrians renewed the attack.

Jonak's Brigade against Wenzelsberg.

Rosenzweig's Brigade against wood north of Wenzelsberg.

The result of this attack was that the Prussian right and centre was driven out of the woods to the north and east of Wenzelsberg, and as this laid bare the right of the 4 half battalions on their extreme left, the whole were forced back to the edge of the plateau. (Actual position shown in plan.)

The moment was extremely critical. The main body of the Prussian Corps was still engaged in the long and narrow defile of Nachod. If the Austrians could not be kept at bay until a portion at least of the corps had debouched, the advanced guard must be driven back on it into the defile, causing hopeless confusion if not a serious disaster.

The entire Prussian Advanced Guard was now in action, and stood on a single line from Wysokow to Brazec, without reserves.

The Austrians advanced from the woods north and east of Wenzelsberg, across the open, against the position to which the Prussians had retired.

This advance was met by such a hot and rapid fire, while the left flank was charged by cavalry, that the Austrians had to fall back again into the woods with severe loss.

A cavalry engagement on their left resulted in the Austrian cavalry being driven from the field.

It was now 12 o'clock.

The Prussian Advanced Guard of $\left\{ \begin{array}{l} 6\frac{1}{2} \text{ battalions infantry,} \\ 13 \text{ squadrons,} \\ 3 \text{ batteries,} \end{array} \right.$

- had up to this kept in check for more than three hours an Austrian force of

21 battalions infantry,
11 squadrons,
4 batteries.

But the main body of the Prussian Corps was now beginning to debouch from the defile.

The leading battalions and some artillery were rapidly pushed on to the plateau.

With these reinforcements the Prussians resumed the offensive.

They advanced against Wenzelsberg and the woods, and succeeded in once more establishing themselves there.

The fourth Austrian brigade (Waldstatten) had by this time come up, but was being held in reserve.

General Ramming, finding his centre giving way, now ordered two battalions of this brigade to re-take the wood north of Wenzelsberg.

These two battalions were driven back in their effort, and had to retire with heavy loss.

About the same time the remainder of the brigade was ordered to establish itself at Wysokow.

This movement was also defeated.

The Prussian Corps was now got safely through the defile, and a considerable part of it had already arrived on the plateau.

The Austrian commander orders a general retreat on Skalitz.





CHAPTER VII.

CHARACTERISTICS OF THE THREE ARMS.

BEFORE entering on the principles of the employment of the three arms, it may be well to briefly summarise their chief characteristics.

INFANTRY.

The weapons of infantry are the rifle and the bayonet. With these it can engage the enemy by fire at a distance, and hand to hand at close quarters. Infantry can move wherever a man can put his foot, and can come into action more easily and rapidly than the other arms. For, individually, foot soldiers can use their weapons instantaneously with effect, and the power of numbers to do so at any moment is only controlled by distance and formations. Movement and effective firing can rarely be simultaneous, yet the two may be combined with infantry to a far greater extent than with the other arms. Infantry is more independent of circumstances, and therefore less liable to lose efficiency, than either cavalry or artillery. It is equally effective in attack and defence, so that it is at all times sufficient in itself for its own protection. Finally, it can be more cheaply equipped, more quickly made efficient, and more easily kept up than the other arms.

CAVALRY.

The force of cavalry lies in the combined action of the man and horse. This is represented in its fullest form by the shock of collision with the enemy. Hence, though cavalry is armed

with fire and hand-to-hand weapons, the latter remain always the principal, the former being only accessory. The combined action of the horse and rider may at any moment cease, and the man still remain efficient as a rifleman; but in separate actions of this kind, that of the horse is completely lost, and may be practically regarded as wasted, except when used for the rapid conveyance of his rider to special points to act as a foot soldier. This would be a temporary conversion of cavalry into mounted infantry.

Power of rapid movement has the following special advantages. 1. The force can be quickly transferred from one point and applied at another. 2. It is enabled to seize fleeting opportunities for effective action during an engagement. 3. In collision with the enemy effect is sought for in the intensity of the shock, and velocity is the measure of its momentum. 4. The power of rapidly striking often gives to the presence alone of cavalry a certain paralysing effect on the action of the other arms immediately within its reach, so that its moral effect is usually in undue proportion to its physical power.

On the other hand, it is easily thrown into disorder, and slow to rally. It can only act on suitable ground, and has practically little defensive power. It is expensive to equip, and requires long training to become efficient.

ARTILLERY.

The action of artillery is by fire only. It is effective at ranges at which infantry would be useless. Every shot that tells has very destructive effects, and it is the only arm that, at a distance, can destroy material obstacles, such as parapets, stockades, &c. It can extend its power immediately beyond existing barriers by means of 'curved fire,' and its moral effect on troops subject to its action is known to be always very great.

On the other hand artillery is, relatively to the other arms, bulky, complicated, and liable to casualties which throw it out of

gear. It occupies great space on the line of march, and requires immense supplies. It cannot change positions in all directions with the facility of other arms, is powerless while in movement, and without defensive power at close quarters. Its effective action is very much dependent on ground and weather. It is of all arms the most expensive to equip and keep efficient, and the most difficult to train and recruit.

CHAPTER VIII.

GROUND IN RELATION TO TACTICS.

GROUND influences tactical operations by the manner in which it affects view ; affects movement ; gives full effect to each arm ; gives protection to each arm.

VIEW.

Cover from view is obtainable from very gentle undulations to a far greater extent than those unpractised in testing it would suspect ; for men are apt to considerably underrate the height of physical features in comparison with their own height. Such cover is always of great importance in getting troops into position before serious fighting commences, in secretly transferring them from one point to another during an action, and in facilitating surprises.

But cover from view that does not also protect from fire, such as hedges, &c., must be utilised with some caution, for men are apt to crowd behind it when no other cover is available, and if the enemy's fire be then attracted, loss would ensue in proportion to the denseness of the occupants. Yet the feeling of concealment tends to increase men's confidence, and the prospect of cover, even from view, encourages them to advance, so that it is on this account of value.

MOVEMENT.

Ground affects movement by extending or limiting the breadth of front on which troops can advance, and by the retarding influence that the character of the surface can exercise. Time

is an all-important element in tactical combinations, and what is productive of delay may at any moment exert a dangerously disturbing influence. Reliable calculations may be based on the extent of roadway available, but the state of the surface may be so subject to alterations from weather, extensive traffic, &c., as to invalidate any calculations that ignored them.

In a heavy clay soil even the best laid down roads become almost impassable in bad weather after a certain number of troops have traversed them. Thus, in 1815, part of Napoleon's force in pursuit of the Prussians from Ligny took 7 hours to move less than 5 miles. On the other hand, in a light or sandy soil water is quickly drained off and the surface made hard again. Also when the impassable state of the surface results from moisture, frost or continued cessation of rain may make such a district temporarily passable.

In addition to the character and condition of the surface, the existence of streams, marshes, canals, &c., which render communication between different parts of a force difficult, also materially affect tactical operations.

INFANTRY.

Ground chiefly affects the action of infantry by the cover it affords, and the extent of front it admits of. Both these points have become latterly of increased importance, as cover to a certain extent is indispensable to avoid destruction, and breadth of front is essential to bringing the full force of infantry into effect. Minor features, such as fences, hedge-rows, dykes, &c., are unimportant obstacles to infantry, while they afford it, in a certain degree, protection. But greater obstacles, such as streams, marshes, &c., impede its action seriously from the delay imposed by changes of formation to effect a passage at special points. Hence, in attack, a cultivated country, not too enclosed, is the most favourable. In defence, the country to the front cannot be too open. In the first, infantry gains a succession of covered

positions by means of which it comes on more equal terms with the defence. In the second, the infantry of the defence has a clear field to destroy the assailants as they approach. All country that tends to restrict movement is favourable to infantry as compared with the other arms. Houses, farms, villages, afford advantages in defence to infantry only.

CAVALRY.

When fire-arms admitted of cavalry approaching to within striking distance of infantry, ground could not be too flat or open for its action. But now, in such a country, cavalry must be kept at so great a distance that little opportunity would be afforded for its employment. To get within reach of the other arms its approach must now be to a certain degree screened both from fire and view, for surprise will be one of the elements of success. This can only be effected by means of undulating or moderately broken ground. Yet when cavalry finally comes into action the ground cannot be too open, level, and free from obstacles. A very precipitous, or very wooded country makes the use of cavalry for fighting almost impossible.

ARTILLERY.

The ground most suitable to the action of artillery is that where its own position affords extensive range, while that fired on possesses little cover. Elevated positions are therefore necessary, but in these, great depression of fire should be avoided, which is always a disadvantage. Obstacles to a limited extent in front are useful, as they afford protection from sudden attack, and when in the form of a marsh, pond, or soft ground of any kind, they diminish the effect of the enemy's fire by holding fast any projectiles that fall there. Hence a country moderately undulating, with long and gentle slopes, little wood or cultivation, good roads, and sound ground for the free movement of wheeled carriages, is the most suitable for artillery.

CHAPTER IX.

PRINCIPLES OF EMPLOYMENT OF INFANTRY.

MODERN improvements in fire-arms have caused such alterations in the fighting formations of infantry that before describing those most suitable for the present, it may be well to review briefly those that have served best in the past. But it will sufficiently answer the purpose if we confine our attention to the two great military epochs of Frederick and Napoleon. Each of these commanders elaborated a system that for the time became supreme, and in turn superseded all that had gone before it. Moreover the relics of each are clearly traceable in the two different systems still with us contending for supremacy.

Frederick's system was essentially offensive, and great stress was laid on the fire of his infantry. His order of battle consisted of two lines, and his infantry was formed in three ranks.

Both lines were deployed, the first with intervals of about 8 yards between battalions ; but the second being always much weaker than the first, greater spaces existed to enable the flanks of both to coincide. Skirmishers were never used by Frederick, and though fire was nominally the fighting action of his infantry, it was almost always supplemented by charges with the bayonet, invariably made in line.

His soldiers were drilled to great handiness with their arms, great accuracy of alignment, and great steadiness in the ranks. Their power of marching in line is said to have been remarkable, but the pace was much slower than we are now accustomed to. The manoeuvres were few and simple, but in these great precision was aimed at.

The fundamental principle of Frederick's system of tactics was the forming his troops on a line oblique to and outflanking that of his opponent. The accumulation of force thus applied at the most vulnerable point rolled up the enemy without giving him time to form a fresh front to oppose it. And this manœuvre with Frederick almost invariably succeeded.

The movement by which his infantry assumed this order of battle was marching in open column of companies in a direction perpendicular to that in which they were meant to attack, and then at once forming line by a wheel of companies towards the enemy. They marched in two columns, so their wheel brought them into two lines.

Now-a-days this manœuvre would seem unintelligibly clumsy, and indeed its suitability at the time was solely due to the utter want of manœuvring power of his opponents. For a processional movement of this kind within reach of the enemy would now be so open to attack and discomfiture, that it seems difficult to realise how it ever succeeded. And Frederick himself affixed on it the stamp of its own viciousness by signally defeating his opponents at Rossbach the very first time they attempted to use it against himself, and by illustrating in his own equally signal defeat at Kollin how a very ordinary incident might at any moment frustrate it.

But the armies opposed to Frederick possessed little mobility, and the tactical ideas of their commanders embodied equally little enterprise. Fixed in a position they had taken up with deliberation and could not quit without disorder, Frederick leisurely effected his movement of forming line against their flank, as a rule without loss, usually without interruption. So feeble, indeed, was the manœuvring power of his opponents, that moving from their position even after defeating an attack was an undertaking always attended with great danger, as was exemplified by the Austrian infantry at Prague and the Russian infantry at Zorndorf.

But this very act of obliquely outflanking his opponent is

the very key to Frederick's tactical success. For in it is embodied the vital principle of all warfare, the application of superior force at a decisive point.

As development of fire was an important element in this mode of attack, the line-formation was, under the conditions then existing, quite suitable. For the attacking force, continually advancing, kept defeating the enemy's efforts to form a fresh front, and the disorder created reacted on the remainder in their endeavour to support those already engaged.

Though when formed offensively against an enemy's flank the line had almost unvarying success, it cannot be safely inferred that it was even then, under all circumstances, the best formation for attack. For when employed against the *front* of an enemy in position, failure, even with Frederick's troops, was by no means infrequent.

Frederick's successes were, in his tactical operations, decisive and remarkable. He inflicted crushing defeats with greatly inferior numbers. But his system rested on sound principles, and his mode of applying them was good when compared with the capabilities of his opponents for opposing it. But its excellence depended essentially on comparison. Tested by comparison it would now be found worthless. Yet the form was by many mistaken for the spirit, and Frederick's system still remained a model until that of the first Empire shattered it to atoms.

The cumbrous flanking movement in open column by which Frederick moved round the Austrian flank at Leuthen, and the Russian flank at Zorndorf, could no longer be attempted against troops of much mobility. It might be met in front and defeated, as the French were defeated by Frederick himself at Rossbach, or it might be attacked in flank with at least equal advantage, as was shown by the Austrians, though so feebly, at Kollin. It was both met in front and attacked in flank by Napoleon at Austerlitz, with results so decisive as to settle forever its claims to existence as a system.

The first wars of the Empire, profiting by those of the

Revolution, inaugurated for infantry essentially different formations to those so successful under Frederick. It was the breaking up of Frederick's line into small parcels of a greater solidity, but which still retained a flexible connection between themselves, and have been aptly described as bearing to Frederick's line the resemblance a flexible chain bears to a bar of iron. These small masses were formed, at first, of battalion-columns, either of companies or of double-companies. In moving to attack, each battalion covered its front with a thick line of skirmishers. Frederick's system consisted in firing first and then charging in line. That is, the same body of men, in the same formation, executed both the fire and the shock. But in the French system, as above described, a portion of the attacking force was sent forward as skirmishers to clear the front, and, aided by the artillery, to so shake the defenders as to ensure the success of a vigorous advance by the columns following close at hand. It was held that the skirmishers, from the great freedom afforded them in taking advantage of cover, would advance with less loss and fire with greater effect, and that the column formation of the bodies in rear gave a solidity over the line that made their attack more formidable.

But this formation also admitted of the whole of the first line using their fire if needed. For the battalion-columns were disposed at deploying intervals, so that at any moment they could form line and commence fire with great rapidity. Yet interrupting an attack by deploying to open fire was only adopted when the resistance was considerable. Thus in Soult's advance at the battle of Austerlitz, when checked on the heights of Prutzen by a threatened attack of the Russians, his infantry, in battalion-columns, rapidly deployed into line to open fire, and as soon as the enemy appeared shaken, the French, still in line, charged and overthrew them. But deploying into line was an exceptional measure, and in resuming the advance, column was invariably re-formed. Thus at Auerstadt Morand's Division advanced into action in line of battalions in column at deploying

distance. Being obliged to assume the defensive, it deployed into line to open fire. On again advancing against Wartensleben's infantry it re-formed columns of battalions, and in this order successfully attacked, covering its front with a cloud of skirmishers. Yet it was on the fire of the skirmishers and the charge of the column that success in this mode of attack was looked for.

This in a few words was the principle of the system on which the French infantry fought in the first wars of the Empire. Compared with that of Frederick its superiority for manœuvring is at once apparent. Hence it is not strange that in its first encounter with the system of Frederick, the latter received its death-warrant. The Austrian Army, scattered at Austerlitz, reappears at Wagram adopting French tactics. The Prussians, routed beyond all precedent at Jena, at once discard old and honoured traditions to adopt formations that have proved their superiority, and to study how in their hands this superiority may be magnified. Continental nations, convinced by defeat, adopt in turn the French tactics of Austerlitz.

But against the troops of one nation this new system of fighting was doomed to the last to remain unsuccessful. British infantry drawn up in line was always victorious against French columns. Supporters of the French system, however, assert that this was due to a violation of the fundamental principle of the system, viz. the substitution of columns of brigades, sometimes even of divisions, for the primitive formations of columns of battalions. According to them the repulse of the French columns at Talavera, Busaco, Albuera, and Waterloo, was attributable to the same cause that produced Augereau's disaster at Eylau. It must certainly be admitted that the infantry formations in the latter wars of the Empire differed materially from those so triumphant at first. Large columns were substituted for small, so that when an attack was checked it was difficult to deploy with order and rapidity. And if the head were overthrown, this entailed the rout of the remainder. Such formations must be pronounced vicious, and even against

other than British infantry they acquired, when used, no success to justify them. At Eylau Augereau's Corps was formed in two close columns, and coming suddenly under the enemy's fire was almost annihilated before it could deploy. Macdonald's column at Wagram was decimated, and probably only not defeated because the battle was being decided by Davoust and Oudinot elsewhere.

But the reason assigned for the use of these massive formations was the confidence they gave troops not inured to warfare. Thus when Lannes' attack was suspended at Essling, and he had to fall back, closely pressed by the enemy, his infantry suffered enormously from fire, for they were retained in masses, as, being young troops, it was not considered safe to deploy them.

But whether with less dense formations the attack in column would have prevailed against the British line cannot now be settled.

Wellington's system of fighting was essentially defensive. His most celebrated battles were fought in well chosen positions, where he awaited the enemy's attack and defeated it. Drawn up in two lines a short distance in rear of the crest, his infantry received the head of the enemy's columns with a volley, and then charging with the bayonet hurled them back in disorder. Instead of being allowed to become disorganised by pursuit, the mass of the infantry was quickly re-formed in its previous position, while the enemy was followed up with a sharp fire of skirmishers.

Similarly, on the offensive, the line was still preserved. Yet it cannot be affirmed that as a formation for attack the same opportunities were afforded for testing its excellence as in defence.

It is beside our purpose to enter into the long-fought contest of column versus line, and beyond our ability to throw fresh light on it. But it may not be amiss to compare in a few words how the aptitude of soldiers of different nations for each mode of fighting may influence the adoption of new formations.

The merit of the column, as admitted by its adherents, was

the greater moral force it gave the men, who on a shallower formation could not be relied on to face so resolutely the enemy. This was proved by the gradually increasing density adopted by the French, as the quality of their soldiers deteriorated in the latter wars of the first Empire. And the great exponent of the system, Jomini, clearly sanctions this view when he pertinently observes, that with no infantry, except the British, could fighting in two ranks be hazarded. But the success of the latter would, judging solely by results, establish their aptitude for fighting on a shallower formation than the troops of any other nation. Hence if the effect of modern fire-arms has been in continental armies to reduce the denseness of formations in which infantry must in future fight, this change is equally, if not more adaptable to the British. For clearly the transition from column to skirmishers is infinitely greater than from two ranks to one, and thence to open intervals.

At the peace of 1815 the French system of tactics was that established in continental armies, and so it remained with slight modifications until rifled and breech-loading fire-arms called for material alterations in 1866. At that date the Prussians had so far advanced on the French formations that they substituted company-columns for battalion-columns of attack. But the skirmishing line was retained for the same purpose and of about the same strength as hitherto. The principle of action therefore still remained the same, to shake the enemy by the fire of skirmishers, but to rely on the shock of masses for the real work of overthrowing him.

The British system still continued an exception to all others, the line being retained both for attack and defence.

Breech-loading rifles first came prominently into notice in the campaign of 1866. They had been previously used by the Prussians in the Danish war, but the trifling events of that campaign were not sufficient to make their great superiority observable. The most striking result of their employment in 1866 was the immense power of fire developed in the attack.

For the different actions of this campaign may be said to have been gained mainly by infantry—not by the shock of columns, but by the fire of skirmishers. That is, those bodies of infantry that had hitherto followed the skirmishers in compact order now became dissolved during the action, and gradually pressed forward to fight in the skirmishing line. Thus fire-action was the actual means of victory, gained by the same troops that were formerly used for the shock, but who had instinctively assumed a formation best suited to the effective action of their weapon. For it is not to be assumed that this mode of fighting was that in which these troops had been trained in peace time or sanctioned by regulation. On the contrary there is strong evidence that their commanders clung tenaciously to the past, and had not yet divined the results that were to be derived from purely fire-action in the attack. And it was equally at variance with existing regulations.

But it was very apparent that this mode of fighting, however advantageous for fire-action, was fraught with great danger, as it was one of disorder. For the control of the men was apt to escape from even the subordinate officers, and this at once endangered the general direction of the whole for a special purpose by the commander.

But the experience of 1866 could not be looked on as decisive, as one side only was armed with breech-loaders. One fact, however, stood prominently forward, the immense increase of destructive power gained by rapidity of loading. For in the single action against the Austrians in which the Prussians were conspicuously worsted, the loss of the victors was four times greater than that of the vanquished. And Trautenau was essentially, on the part of the Prussians, an infantry battle.

The inference drawn from the fighting of 1866 was that the fire-action of infantry could no longer be confined to preparing the attack with the bayonet, but must become the main element in deciding the battle. Still, another point of great importance seems not to have been so fully recognised, and that was, that

rapidity of loading, with increased accuracy and range, would no longer permit infantry in masses to approach as heretofore a position defended by troops using breech-loading arms. Hence we find the Germans in the early part of the campaign of 1870, though fully intent on developing to the utmost the fire-action of their infantry, still endeavouring to approach defended positions in dense formations. But this quickly produced its own remedy in the heavy losses it entailed, and the attempt to move in masses under fire had to be absolutely abandoned.

A mode of fighting for infantry thus became necessary that would supply the double requirement of developing and supporting a fire-attack without laying it open to destruction in accomplishing it. This would lead, if not to a total change, to a considerable modification of existing formations.

ATTACK.

Infantry attacking in front infantry well posted must do so at the risk of such heavy and disproportionate loss, that formations should be such as will provide best against this loss while retaining sufficient solidity to make the attack effective.

Formations should aim at—

The utmost development of fire.

The highest possible mobility.

The most difficult target for the enemy.

Development of fire depends on the number of rifles that can be made effective. It has been found by experience that to use his rifle with full effect each soldier in the firing line requires about a yard and a half of front. But a battalion of eight companies, each 100 strong, would in such a formation occupy an extent of front far beyond the power of its commanding officer to control. Also the support and reinforcement that so weak a formation would largely require during an action should be drawn from other corps, which would lead to a mixing up of

troops always to be avoided. To obviate both these disadvantages and still retain the battalion as the fighting unit of the first line, the formation in two ranks would have to be replaced by one, in which a battalion would still occupy about the same extent of front but a much greater depth. Such a disposition becomes further necessary from the system on which an attack would now be conducted.

The enemy's resistance will have first to be broken down by fire, and then his position assaulted by numbers. It therefore becomes essential to dispose the attacking force in a manner that will at first bring directly under the enemy's fire only as many men as are at the moment capable of inflicting loss on him ; or rather, as will retain the remainder as much out of the effect of his fire as possible.

Thus the *leading troops* of an attacking force would have two distinct missions, and as the success of one will mainly depend on that of the other, they may be divided into two distinct, though still closely connected, parts.

1. The *firing line*, to commence the action by its fire, and damage the enemy to the utmost previous to the assault.

2. The *reserve*, to complete the work of the *firing line*, and in conjunction with it to carry out the actual assault.

The *firing line* would be further subdivided into,

1. Skirmishers.
2. Supports.

The supports to be retained separate, as such, as long as possible, but gradually, when required, to feed, and ultimately merge into the skirmishing line.

As the ultimate success of the attack practically depends on the effect produced by the fire of the *skirmishing* line, it becomes desirable to maintain the latter at its maximum. Experience also shows that reinforcing skirmishers once extended is much more costly than engaging the full number from the outset. And as the supports should not at first be much weaker than

the part extended, the *firing line* would be usually composed of about half the battalion.

The maximum extent of front a force so formed would occupy should mainly depend on the degree of supervision and control afforded to the officer immediately in command, as also on the power of concentrating its fire on the special point of attack. The minimum; on the condition that sufficient space be afforded each man in the skirmishing line to obtain the fullest effect from his rifle.

If 300 yards be taken as the average breadth of front for a battalion, and a yard and a half of lateral space be allowed for each man in the skirmishing line, then the strength of the latter would be $\frac{300}{1.5} = 200$ men. With a battalion of 8 companies each 100 strong, there would therefore be 2 companies extended, 2 in support, and 4 in reserve. Conversely, if the battalion were *required* to extend 3 companies, then the minimum front would be $300 \times 1.5 = 450$ yards; and this may be taken as the extreme that a battalion should occupy.

As the range and accuracy of modern fire-arms precludes the manœuvring of troops on the battle-field in dense formations, those for attack should be assumed immediately the leading troops arrive within effective range of the enemy's artillery. Once this formation is adopted and the advance commenced, the attack should be carried out with the greatest vigour and without interruption.

The action of the front line will consist in rapidly gaining ground up to a point at which a considerable portion of its fire may be expected to take effect. Thence its further advance can only be gradual, until finally it gets so close to the position that, joined by the reserve, the whole rush forward to the assault.

The fire of an attacking force does not attain its full efficiency until within about 400 yards of the point attacked, therefore the skirmishing line should seek to establish itself at that distance as quickly as possible. Rapidity in gaining this point is held to

counterbalance any chance effect that may be obtained by opening fire at long ranges, for firing would materially retard the advance and ultimately produce a stationary fight. *Hence an advance without firing should be maintained as long as possible.*

But as the advance continues a point is reached where the effect of the defender's fire checks the attacking force, and obliges it to seek cover. This point will vary, with the nature of the ground, from 1,000 to 500 yards from the enemy.

The further advance must now depend on the effect produced by the fire of the assailants, and would be carried out by a succession of rushes to the front. In these the whole skirmishing line would move forward together, or in successive fractions, for short distances of from 50 to 100 yards.

In this manner a more advanced point is reached, whence a rapid and sustained fire is commenced. This may be taken at a distance, as an average, of 300 yards from the enemy.

It has been found in recent battles that when this point is gained a crisis is quickly produced. Either sufficient impression has been made by the assailants to encourage them to quickly press on to the assault, or the defence is still so resolute as to oblige them quickly to fall back.

The whole of the attacking force (*i.e. firing line and its reserve*) should take part in the actual assault. Therefore the *reserve* must be at such a distance from the *firing line*, at this period, as to arrive in time to the front for the whole to assault *en masse*.

Formerly the skirmishers were but a small fraction of the attacking force; their business was to cover the advance of the main body up to a certain point, when the latter passed through them to deliver the assault.

But an important fundamental principle in every offensive movement is that the whole available force on the spot be fully utilised. Hence, assuming the relative proportion of the *firing line* and *reserve* as above, to assault with the *reserve* alone would be to forego, at a critical moment, the aid of an important part of the available force.

The theory that the skirmishing line, halted, would assist by its fire the assault by the *reserve*, has not been found to work in practice. Neither will the skirmishing line at this period have retained sufficient force to enable the *reserve* to rally on it in case of failure. Therefore the assault should be delivered by the *skirmishing line* and its *reserve* combined.

The formations in which troops behind the skirmishers should advance must greatly depend on the nature of the ground. Those in immediate support will usually open out as soon as they become an object for the enemy's artillery.

The *reserve* should be maintained in as compact order as possible to the last ; for though the skirmishing line cripples the defence, and paves the way for the assault, still, to induce an enemy to evacuate a position, the final attack must be made in collected bodies.

The distances at which the different parts of an attacking force would follow each other are influenced so much by the varying local circumstances of a fight, that only general principles can be laid down on this head.

A vigorous attack quickly exhausts the fighting power of the front line ; therefore supports should be near enough to afford timely reinforcement, and so prevent the loss of what may have been dearly purchased.

A decisive effect produced on the enemy by the *firing line* should be *at once* followed up by the *reserve* ; else an interruption, or delay, may enable the enemy to re-establish confidence or reinforce his position.

Having these points in view, the *reserve* should at first be kept back as far as possible from the *firing line*,—for with the flanks of the latter secured, the power of the breech-loader will compensate for the thinness of the formation in opposing a direct counter attack by the enemy.

As approximate distances those laid down in the 'Field Exercise' for a battalion employed in skirmishing would hold good, viz., from 200 to 300 yards between supports and skir-

mishers, and from 400 to 500 yards between supports and reserve. These would become considerably diminished during the course of the fight, for it must be expected that the supports nearly always, and even the reserve sometimes, when the defence is very obstinate, would be drawn into the firing line before the assault could be attempted.

It is to be observed that what is here said applies to the *leading troops* only of an attacking force.

DEFENCE.

Hitherto the line has been the formation for infantry fighting on the defensive. It accorded best with the principle of bringing to bear the heaviest fire possible on the attacking force. And though this principle must now more than ever hold good, it may be found necessary to modify to some extent the manner of its application.

With the old musket the distance at which the attacking troops commenced to suffer seriously from the fire of the defence was very limited, and hence to be effective fire had to be reserved for short ranges. But it became then the more essential that when fire was opened all that the space admitted of should be brought to bear. This was arrived at by placing infantry in line on a depth of not less than two ranks, as thus every man could use his rifle. For at the short range at which infantry fire was then effective, such care or steadiness in aiming was not required as would be incompatible with this close formation.

But now, as we have seen, the infantry of the attacking force may be made to suffer heavily from the fire of the defence at much greater distances than of old, and the defenders in turn will similarly suffer from the infantry fire of the attack. And though the rule must still hold good that the fire of masses should be reserved for short ranges, still the destructive effect of infantry fire under different conditions at longer ones must not be overlooked or its value neglected.

In the last war, the first in which breech-loaders were used on both sides, the habit of opening fire at long ranges has been severely censured. But as a matter of fact the destructive effect of such fire was often so great at distances varying from 500 to 1,200 yards as to make its results of very considerable value. Two notable instances, amongst many, were the attack of the XXXVIIIth Prussian Brigade on Grenier's Division at the battle of Mars la Tour, and the oft-quoted one of the Prussian Guard at St. Privat. Yet the denseness of formation asserted to account for the latter was not chargeable to the former, as the XXXVIIIth Brigade had its front line formed in company columns and its second in half battalions. Still, at a thousand yards the French infantry fire is described by their opponents as being 'murderous,' and the ultimate defeat of the attack was attended with a loss little short of annihilation.

Fire has become more than ever the soul of the defence, and it should be applied towards preventing the enemy from reaching the position, and not, as of old, reserved for defeating him when he gets there. He must be beaten during his advance, else by his own fire he will already have beaten the defenders before closing with them. The energy of his attack must be broken ere he approaches sufficiently near to enable it to carry him further, or have it revived by a feeling of success. Moreover his progress should be made to depend on the effect of his own fire, so that it becomes further incumbent on the defence to seek to cripple that from the outset. Hence, on the defensive a well regulated fire should be brought into play at the longest range at which it can be made *effective*.

But for distances beyond point blank range it is clear that accuracy of fire, rather than quantity, should be aimed at. But accuracy requires a degree of freedom of individual action found to be unattainable in a rigid line and on a depth of two ranks. And it becomes still more so when a shelter trench or similar cover is availed of, now an almost indispensable provision for troops on the defensive. While therefore maintaining the prin-

ciple of the line formation, it will probably, with modern fire-arms, be found necessary to so far modify its application, that troops occupying an entrenched or sheltered position would not only be formed in single rank, but the men may be further opened out to half intervals.

In addition to affording sufficient freedom for accurate aiming, this formation removes from the effect of the enemy's bullets all who do not directly aid in the work of his destruction. Also it enables a portion of the *first* line to be kept at hand intact for that vital part of all defensive action, counter attack. And if, as we have assumed, as many rifles as can be made effective have been retained in action, every additional man exposed in the front line would be doubly a disadvantage.

It may be considered that in this formation the resisting power of the front line becomes dangerously reduced. But now the power of resistance dwells in the rifle, and in the moral rather than the physical qualities (within limits) of the man who uses it. Moreover, the front line is no longer exposed to the rapid advance of masses by whose shock its thin formation could be easily shattered. Advancing in masses would now be the best way of defeating its own object, for it would but lead to certain and more rapid slaughter. So that the accumulation of sufficient numbers near enough to the position to menace it with storming could only be effected gradually, and with such warning as to enable the defenders to make timely dispositions to meet it. Thus the strength of the front line would be more correctly measured by the destructive effect of its fire than by the numbers it is composed of.

It is assumed that, in the formation advocated, the maximum effect of fire will be procured on the extent of front occupied. But to maintain the defence at its strongest, this maximum should never be allowed to diminish. Hence a replenishing body of troops should be at hand, both to replace casualties and for immediate support in any other way. But as they could

only become directly effective by being moved into the front line, they should in the meantime be retained under cover.

On the tenacity of the front line will in a great measure depend the success of the defence. A position deliberately occupied implies that it is the strongest defensive ground in the locality. Hence its loss should entail the loss of the battle. It is not by this implied that no effort should be made to retake a position once lost, but rather to lay stress on the difficulty and uncertainty that would attend it. For the advantages of the situation would have become in every way reversed. Hence to prevent the enemy from reaching the position, and if this fails, to fall on him most vigorously when he gains it, should be observed as a vital principle in conducting the defence.

But no dispositions in the immediate front line can guarantee that the enemy by a vigorous and well-sustained effort does not succeed in breaking through at some point. And were this success, at first local, to remain undisputed, the safety of the whole position may quickly become endangered. It is therefore necessary that an additional body of troops be at hand to intervene rapidly, and restore matters at any cost. These would be posted at some distance in rear of the immediate supports to the front line.

Thus the old formation of a first line in two ranks is here replaced by a disposition of the same force on a depth of three lines. Yet the three are so closely united for action that they may be practically regarded as still one, and the whole termed the *first line* of defence.

In determining the strength of each part, the space occupied by a battalion deployed in two ranks would still serve as a guide. If we again use for illustration a battalion of 8 companies, each 100 strong, we find that in two ranks it occupies about 275 yards. In the formation we have assumed, 3 companies would occupy about 300 yards. And this proportion for the front line would be suitable both as regards the power of control

it would afford the commander of the battalion and the general disposition advocated for the whole.

The immediate *support* to the *front* line being provided rather to fill gaps than for anticipated intervention as a body, its strength would be reduced to what would be sufficient to meet this object. Two companies might then be devoted to this purpose, while the remaining three would be held concentrated as a *local reserve*.

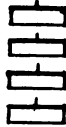
The distance that should separate each of these parts would be determined alone by the character of the ground. Shelter for both second and third line would be in all cases of great importance, yet in obtaining it the distance from the front line must be kept within strict limits. The immediate supports can be scarcely too near, provided they be under cover. If it be necessary to fix on approximate distances, that of the second from the first may vary from 75 to 150 yards, while that of the third from the second should not exceed what was usual between the first and second line on the old formation, viz. about 300 yards.

Thus the mass of the battalion is devoted from the outset to the active defence of the ground occupied, and the three remaining companies are constantly available either for direct reinforcement or local counter attack.

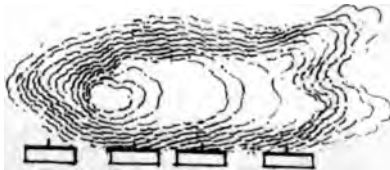
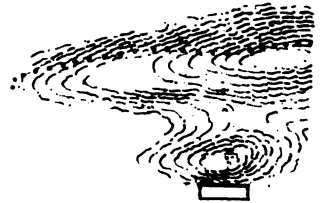
This depth of formation would be equally suitable when the front line is formed of several battalions, for the whole energies of each would be concentrated on an unvarying object in a special locality, viz. the defence to the last of the ground occupied.

Here, as in the attack, the *first line* of defence has been alone dealt with.

Normal formation of Infantry for Attack



The Attack developed





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CHAPTER X.

PRINCIPLES OF THE EMPLOYMENT OF CAVALRY.

THE distinguishing characteristics of cavalry in action are the rapidity with which its force can be applied at distant points on a battle-field, and the effect, moral as well as physical, produced on the enemy by the shock of collision.

The power of cavalry lies in the impetus derived from motion. Accordingly, its action should under all circumstances be offensive. It should therefore never await an attack, should if possible forestall one, but in all cases should advance to meet it. This is a fundamental maxim that admits of no qualification. Speed and order should be combined in its movements, as extreme mobility is essential to high efficiency.

Column is the formation in which cavalry will most conveniently manœuvre—line that in which it will fight to most advantage. The first affords a compact formation, admitting of great freedom of movement without danger of disorder. It enables obstacles to be more easily passed by, advantages of ground to be more readily utilised, and cover from view and fire to be oftener obtained. But as the combat of cavalry should be always hand to hand, to fight in column would be to neutralise its power in proportion to the number of sabres retained out of action. For the theory that the column from its solidity adds proportionally more power to the shock of a charge, can only be maintained by assuming that the whole would act with the unvarying force of a machine. But as on the contrary, the amount of energy brought into play solely depends on the will of those at the head, pressure from behind, even if it could be really

applied without disorder, would never replace want of willingness in front ; and when that is not wanting the pressure is needless and the formation therefore vicious. Marshal Marmont on this subject says, 'As cavalry should always *attack* the enemy and the men fight hand to hand, it should never fight in column. Cavalry on nearing the enemy should deploy. A column of cavalry surrounded, is quickly destroyed.' Even were it otherwise, the increased destructive power of modern fire-arms would now make it impossible to expose cavalry in masses.

The normal formation of cavalry is two ranks, though it has been advocated that even the second rank should be done away with. This on the ground that in many successful charges the two ranks have become one before collision is arrived at, and, when this does not occur, the inutility of the second rank while both remain preserved. But it must be borne in mind that the execution of a charge tends to great loosening of the files, and that if the second rank were not at hand to glide into the vacant spaces, the line would be deprived of that cohesion which must be held to materially contribute to the force of the charge. Hence the two-rank formation is generally adhered to.

The force of a cavalry soldier dwells in his horse, and its application in the impetuosity of the charge. Clearly therefore fire-arms would here be out of place, and 'cold steel' the only weapon a cavalry soldier should rely on. For the efficacy of fire-arms depends on fairly accurate aiming, and aiming with accuracy is incompatible with motion. But motion being the very life of its action, the *raison d'être* of cavalry disappears when motion ceases.

Three conditions contribute materially to the effect of a charge; it should be sudden, rapid, and opportune. The last depends so much on the other two that the three may be said to be inseparable. Its opportuneness will as a rule depend on openings offered by the enemy. These must be carefully watched for and rapidly seized, as their existence is usually fleeting. The charge should be sudden, else the enemy will discern the danger

at hand, and it must be rapid or he will have time to evade it. Recorded instances of successful charges teach us that their effect depends infinitely more on their opportuneness than on the numbers with which they are executed. Kellerman's charge at Marengo restored the battle, already once lost, and secured a victory for the French. In alluding to this charge Marshal Marmont, who was himself on the spot, remarks that a difference of three minutes sooner or later would probably have deprived it of its effect. A timely cavalry charge at the battle of Kollin decided the contest in favour of the Austrians, though their Commander-in-Chief had already ordered a general retreat.

At the battle of Custozza, in 1866, a squadron and a half of Austrian Lancers, falling unexpectedly on an Italian brigade, completely routed four battalions out of the five that composed it.

Hence a requirement for effective cavalry action is that it be to a certain extent instantaneous. With this view it should be kept out of sight, and preparations for a charge, if possible, concealed. Accidents of ground will here afford valuable aid, as also in obtaining shelter from fire, from which cavalry is apt otherwise to suffer before ever being engaged. At Quatre Bras a regiment of Brunswick Hussars suffered heavily from a French battery while still out of action. At Worth the 2nd French Lancers lost 12 officers by the enemy's fire without having once charged.

The nature of the ground over which cavalry charges must always have an important influence on its action. If it be very open surprise becomes difficult, and serious loss may be entailed by a long exposure to fire. Slightly undulating ground will therefore be more suitable, as, whilst stationary, cavalry may be always concealed from view, and even in advancing, considerable shelter may be obtained from fire. In the action of Tobitschau, in 1866, a regiment of Prussian cavalry advanced to attack a large Austrian battery that was observed to be without an escort. The intervening ground was undulating, and afforded the cavalry shelter until they got close to the guns. The latter

then opened with grape, but the battery was carried, two guns only escaping. Eighteen pieces and 168 men were captured, with a loss to the cavalry of only ten troopers.

The ground itself must be such that cavalry can freely manœuvre over. Unforeseen interruptions often entail great loss, besides rendering the charge ineffective. At the battle of Talavera Anson's cavalry brigade, being ordered to check the advance of some French infantry, came suddenly during the charge on a hidden ravine. There being no time to pull up, the 23rd Dragoons went headlong into it, and both regiments arrived in such disorder at the other side that the charge had little effect, and the loss sustained was very heavy.

At the battle of Leipsig, 5,000 cavalry led by Murat were suddenly arrested by an insignificant brook. Confusion and disorder so quickly ensued, that on the appearance of a single Russian regiment in their rear, a panic arose that ended in a most disorderly flight of the whole. In the charge of Michel's cuirassier brigade at Worth, the ground was 'extremely unfavourable for cavalry.' 'Rows of trees cut down close to the ground, and deep ditches, impeded the movement of large bodies in close formation, whilst the infantry (enemy) had a perfectly open range on the gentle slopes of the otherwise exposed heights.' The result of the charge was that Michel's brigade, and part of the 6th Lancers that joined it, were 'almost destroyed,' while the loss to the Prussians was insignificant. In a charge of Bonnemain's division of cuirassiers on another part of the field, the ground was 'equally unfavourable.' 'Numerous ditches and stumps of trees as high as a man impeded the movements of bodies of horse, and the enemy's infantry found cover in the fenced hop plantations and vineyards.' This charge was exceedingly disastrous. The 1st Cuirassiers, leading the attack, were first checked by a ditch, and subsequently driven back with great loss. The next regiment, moving to the left, to find more favourable ground, advanced under fire for about 1,000 yards, and were ultimately dispersed by this fire without ever reaching

the enemy. The third regiment closed on their opponents, but lost 5 officers killed, several wounded, 129 men, and 250 horses. Only half of the fourth regiment came under fire, still they lost their colonel, and had 7 officers, 70 men, and 70 horses killed and wounded.

To guard against dangers of this kind, the ground to be charged over should be reconnoitred beforehand. This will usually be best effected by scouts sent out either previous to the attack or to precede the advance. At Zorndorf, Seydlitz's cavalry was formed on the extreme left of the army and separated from the remainder by a small stream. Judging, from the position of the enemy, whose right rested on this stream, that he would probably be engaged on the other side of it, Seydlitz had the stream reconnoitred and troopers stationed at the points where it was passable. When subsequently obliged to cross it, his cavalry did so without impediment or delay of any kind.

The fighting formation of cavalry we have seen is the line. This does not, however, imply that the whole of an attacking force should be at once employed in the front line. The period of a charge at which cavalry is weakest is the moment after collision with the enemy. The act of collision produces disorder, and this is further increased by success from the natural tendency to pursue. A fresh body of the enemy's cavalry, attacking at this moment, would encounter their opponents when least fitted for resistance; and if on the other hand the charge had failed, the victorious enemy may make the disorder irretrievable unless there were at hand some means of checking his pursuit. A body of cavalry therefore, unless very small, should never engage its whole force at once. A portion should be held back as a reserve, either to support the first line, to take up the pursuit, or to check the enemy if the first line were repulsed. Murat, charging without a reserve at Leipsig, had no formed troops at hand to check the enemy when his fire line fell into disorder. Ponsonby's Brigade, previous to charging a French column at Waterloo, was formed with two regiments in first line and one in reserve. But

the latter allowed itself to become engaged in the first line, and the enemy being overthrown, took part in the pursuit. When the French cavalry in reserve attacked these regiments, the British commander had no reserve to meet them with, and, the whole force being caught in the disorder of pursuit, they were driven back with a loss exceeding half of the brigade. At Rezonville Bredow's Brigade advanced to charge in two lines, but the second line becoming engaged as well as the first, there remained no reserve to either. The result was, that when attacked after their charge by fresh bodies of the enemy, the Prussian squadrons were almost annihilated. In one of Kellerman's charges at Austerlitz his first line overthrew the cavalry opposed to it, and continued to advance until checked by hostile infantry. As he fell back the enemy launched some fresh regiments in pursuit, but his reserves advancing, defeated these regiments, and so effectively covered his retreat that he at once re-formed and delivered another charge. Similarly, Nansouty, at the same battle, having overthrown the enemy's cavalry with his first line, completed their rout by launching his second line in pursuit.

The position of a reserve should be such as to admit of its intervening most effectively in the fight. It may be in the form of a second line only, or of a second and third line. The weak points of cavalry are its flanks. These must be secured by *troops*, for advantages of ground cannot be relied on, as, the action of cavalry consisting in movement, they may have at any moment to be abandoned. The most advantageous position for the second line will usually be in rear of the flanks of the first. Thus disposed, it will be in less danger of being thrown into disorder or impeded in its action by a repulse in front, will protect the flanks of the first line, and will be well placed to act against those of the enemy. When there is a third line it may be posted in rear of the centre, or partly in rear of the flanks, or wholly in rear of the more exposed flank.

The battles of Zorndorf and Austerlitz may be taken to represent respectively the periods when cavalry was at its zenith

under Frederick and Napoleon. At Zorndorf the Prussian cavalry charged sometimes in two lines and sometimes in three. Once only did Seydlitz charge in single line, but the moment was very critical and the opportunity a tempting one for enveloping the enemy. The lines were formed one in rear of the other, and usually about 250 yards apart.

At Austerlitz Kellerman's Division made nine charges. It was composed of two brigades, each of two regiments, with one or at most two regiments in the first line and the remainder in second line or reserve. The other French cavalry divisions made their charges as a rule in two lines. The distance between the lines was generally about 250 yards.

The distance between the lines should admit of those in rear affording timely support. Yet they should not be so close as to allow of a reverse in front paralysing the action of the remainder. Sufficient space should also be preserved for manœuvring, as well as to attain effective impetus in a charge. At the battle of Soor in 1745, the Austrian cavalry of 50 squadrons was formed in three lines not more than twenty yards apart. Charged by the enemy's cavalry the first line was thrown back on the second and that on the third, and finally the whole in disorder on the infantry.

To be most effective, the final part of a charge should be executed at full speed. The pace of the preliminary part should therefore be regulated accordingly. A gradual increase of pace that arrives at full speed within a short distance of the enemy, enables the necessary cohesion to be preserved in the charge and prevents the horses from being blown at the end of it. Both these points are of great importance as regards the effect of the charge itself and the power of the horses to make a fresh effort if called upon. Bredow's charge at Rezonville was at first successful, but the horses were so done up that when attacked by the enemy's cavalry the men could do nothing with them, so that the French easily broke through, 'knocking them over and scattering them like sheep.' Similarly, in Ponsonby's charge

at Waterloo the horses of the English were so blown when attacked by the French, that they were powerless either to manœuvre against the enemy or carry their riders out of his reach. Previous to his great charge at Zorndorf with 61 squadrons, Seydlitz, finding his horses distressed from their previous movements, ordered that no part of the charge should be quicker than a gallop.

The flanks being the vulnerable points of cavalry, the attacking side should always seek to gain those of the enemy. This is an important principle, for the results obtainable are usually of the most decisive kind. At the battle of Prague 65 Prussian squadrons, in two lines, attacked 104 Austrian squadrons, in three lines. The Prussians overthrew the enemy's first line, but being attacked in front and outflanked by the second, were defeated. They re-formed and again attacked the Austrians, but were again defeated. In the meantime Colonel Warnery, moving up with five fresh Prussian squadrons, rapidly manœuvred so as to gain the enemy's flanks, and falling on the Austrians, overthrew several regiments and stopped the pursuit. The defeated Prussian cavalry had again re-formed, and, reinforced by some fresh squadrons, but still inferior in numbers to the enemy, charged in support of Warnery's flank attack, and so routed the Austrians that they did not appear again during the battle. At the action of Saalfeld, in 1806, Marshal Lannes, perceiving some wavering in the enemy's infantry, ordered two cavalry regiments to attack it. The regiment in first line, while charging, was attacked in flank by five Prussian squadrons, but the regiment in second line dividing into two parts, fell on both flanks of the Prussians, completely defeating them, killing a great number and driving the remainder in the wildest disorder from the field.

Warnery says that 'in a fight the principal aim of a cavalry commander should be, after securing his own flanks, to seek to gain those of the enemy.' Bismark on the same subject says, 'Hostile cavalry seeks to gain each other's flanks—the side which

succeeds in this is oftenest victorious.' Jomini, in confirmation of the above, remarks, 'With equally good troops victory will fall to that side which holds the last squadrons in reserve, and launches them at the proper moment on the flank of the enemy when engaged with one's own troops.' The cavalry action that decided the battle of Wurzburg in 1796 is a good illustration of these principles.

If a charge be successful it is important to follow it up and disorganise the enemy to the utmost. But it must be borne in mind that the victorious squadrons are, while so engaged, unfit to resist fresh troops. If therefore it is wished to pursue with the first line, part of it should be rallied at once as a support while the remainder follows up the enemy. The heavy loss to the Union brigade at Waterloo was due to the disorderly pursuit after a successful charge. If the defeated force is much disorganised and out of reach of support, the rally may take place to the front, otherwise the engaged squadrons should be withdrawn to rally. They should be re-formed under the protection of other troops, but not retired further than will enable them to re-form in safety.

The actual situation on the spot can alone determine how far a successful charge should be followed up, and when persevering further would compromise the success already obtained. At the action of Margalef, in 1800, General Bousard, with a regiment of French cavalry, attacked and overthrew the Spanish Cavalry opposed to him. Rallying at once to the front, he fell on the flank of the infantry and defeated it so completely that eight battalions laid down their arms. On the other hand Havelock, after completely routing the Sikhs in his brilliant charge at Ramnugger, continued to advance, but getting into deep ground within fire of the enemy, he himself was killed, and the regiment suffered heavily before it was able to be withdrawn out of action.

The most favourable conditions for attacking the enemy's cavalry are, when it can be taken in flank, when it can be sur-

prised manœuvring, and when it is engaged with one's own cavalry or infantry.

It has almost become accepted as a maxim that cavalry is powerless against good infantry, if well posted and on its guard. Though this may not be strictly true, yet the loss to cavalry attacking under such conditions, must usually, even with success, greatly exceed the gain.

In the wars of Frederick cavalry bore a large proportion to the other arms. At Kollin the Prussian cavalry was nearly equal in numbers to the infantry. It was frequently used with remarkable success against infantry at all stages of a fight. At Rossbach Seydlitz's squadrons commenced the action by overthrowing the enemy's cavalry and then falling on his infantry, broke that up likewise. At Zorndorf the Russian cavalry twice overthrew the Prussian infantry, at one time completely routing 15 battalions, at another time 13, and twice the Prussian cavalry restored the battle, overthrowing in turn the enemy's infantry.

At Hohenfriedberg the Prussian body-guards cut to pieces 2 Saxon infantry regiments, and Gesler, charging with 20 squadrons, overthrew several battalions, taking 4,000 prisoners and 66 standards. But increased mobility and improvements in fire-arms have gradually made cavalry less and less formidable to infantry. At Austerlitz the French cavalry attacks on the Russian infantry were without effect, while the latter remained unbroken from other causes. At Auerstadt the desperate efforts of the numerous and powerful Prussian squadrons failed to disturb Marshal Davoust's infantry. At Essling the Austrian infantry, formed in battalion columns, resisted the most determined efforts of Bessières' cavalry to break it. Similar results were experienced at Borodino, Quatre Bras, and Waterloo, where cavalry in large masses was used in the most determined manner in efforts to overthrow infantry.

But occasions will occur when, notwithstanding the certainty of the loss to be incurred, cavalry must be freely used against unbroken infantry. The defeat and destruction of Augereau's

corps at Eylau rendered the situation so critical that Napoleon at once launched the whole of his reserve cavalry, amounting to 80 squadrons, against the Russian infantry. The loss to the cavalry was very great, but the attack was so far successful that it attained the object sought, of gaining time and temporarily neutralising the effect of Augereau's disaster. Similarly, on the first day at Essling, the whole of the French infantry that had crossed the river was required to defend the villages, so that nothing remained to occupy the intervening ground but the cavalry. When Hohenzollern's infantry therefore tried to break through at this point it became necessary to use the cavalry against it, and it was only by repeated charges that its advance could be arrested. Again, on the second day, when the Archduke seemed bent on forcing the French centre, Bessières was ordered to charge the enemy's infantry with his cavalry, no longer for victory but for the safety of the army. At Mars la Tour in 1870, the infantry of the IIIrd Prussian Corps being engaged to the last man, and the artillery in action to the last gun, Bredow's cavalry brigade is sent forward as a last resource to check Canrobert's attack. This it partly effects, but with a loss of half its numbers. Later on in the same action, the 1st Dragoons of the Prussian Guard are used to save the 38th Brigade from destruction, and here again, out of three squadrons engaged, the loss amounts to 125 men and 250 horses.

In all these engagements the attacking cavalry suffered great loss, and their success only amounted to checking the enemy, and never to seriously disorganising the infantry opposed to them. But all attempts to replace infantry by cavalry must have similar results, as the true use of the latter is as an auxiliary and not as a substitute for the former. And as such, its co-operation is not only of great value, but cannot be dispensed with.

But though cavalry should never as a rule be used against good infantry while unbroken and on its guard, its action may be most effective against infantry under other circumstances. When surprised or suddenly taken in flank, infantry would

usually be at the mercy of good cavalry. At the battle of Rio Seco, Lasalle's squadrons took the enemy's first line in flank and totally routed it. At Waterloo the 5th battalion of Ompteda's Brigade while advancing in line was charged in flank by some French cavalry, and the slaughter and rout of the battalion was so great that but one officer and about twenty men were left together at the end of it. At Quatre Bras a British regiment, while deploying into line, was surprised by a body of French cavalry whose approach was concealed by surrounding high corn, and the latter charging it in flank completely rolled it up, cutting down great numbers and dispersing the remainder. Another regiment of the same brigade, warned in time, rapidly formed square and beat off a portion of the same cavalry. During this battle a Hanoverian battalion, suddenly attacked while in line by some French Lancers, was cut to pieces.

Infantry already engaged with the enemy's infantry must, if attacked by cavalry, be always taken at a great disadvantage. Kellerman's charge at Marengo, which had such a decisive influence on the battle, was made with four squadrons against the flank of the enemy's infantry hotly engaged in front with the French infantry, and at a moment when the latter began to waver. It resulted in 5,000 picked troops laying down their arms.

At Waterloo, while Marcognet's column of eight battalions was engaged in a musketry action with two battalions of Pack's Brigade, it was charged by a British regiment of cavalry and completely routed. Le Marchant's charge at Salamanca, in which 2,000 prisoners were taken, and the charge of French cavalry at Albuera on the flank of Colborne's Brigade, by which two-thirds of it was swept away, are similar instances.

Against infantry demoralised or much shaken by artillery, cavalry will be usually employed with success. Kellerman's charge against Bagration's infantry at Austerlitz after it had been shaken by artillery fire, was successful, though several previous attempts against the same infantry had failed. At

the same battle a charge by Walther's Cavalry Division against the enemy's infantry was repulsed, though the same infantry, having in the meantime suffered from oblique artillery fire, was soon after overthrown by d'Hautpoul's Cuirassiers with a loss of 1,200 prisoners and 11 guns. Previous to Murat's great charge at Eylau the enemy's infantry had suffered heavily from the French artillery.

In attacking artillery in position, cavalry should, when possible, manœuvre to gain its flanks or rear. A direct attack must always be very costly, and well served guns will usually defeat it. At Essling repeated attacks by the French light cavalry on some Austrian batteries completely failed, though led by Lasalle. Two separate front attacks of the French horse-grenadiers and cuirassiers on an English battery at Waterloo were repelled with a slaughter that is indescribable.

But as artillery has of itself no defensive power other than its guns, if these can be approached without coming under their fire, the battery is at the mercy of the attacking force. After Ponsonby's Cavalry overthrew the French infantry at Waterloo, a part moved against the flank of the great battery east of the Charleroi road, and sweeping down the line of guns, sabred the gunners and stabbed the horses, causing excessive loss and disorder.

As guns will always be closely supported by either of the other arms, part of the attacking force should be directed against the covering party and part against the pieces. The part moving against the guns would be in extended order, and that against the covering force in a compact body. This simultaneous attack on the escort should never be neglected, as success against the pieces would be of little avail if there were a fresh body of the enemy at hand to fall on the attacking force. During the battle of Jena, Marshal Ney sent a regiment of cavalry against one of the enemy's batteries, from which his infantry was suffering. The whole of the regiment moved against the guns and carried the battery, capturing 13 pieces. But the cavalry in support of

the battery now fell on the victorious squadrons and completely routed them, recapturing the guns.

Artillery surprised unsupported, caught in movement, or when it has already suffered heavily in men and horses, offers most opening to an attack by cavalry.

We have said that fire-arms are unsuitable to the action of cavalry, as such, but situations frequently occur where it is highly important that cavalry should be able to fight on foot. This will more frequently be the case when detachments of this arm are employed for reconnoitring or other purposes at a distance from infantry. These detachments should be able to manœuvre independently as long as they do not come into contact with the enemy's masses, and should not be liable to serious interruption from small parties of infantry holding defiles or other favourable positions to check their movements. The impediments likely to arise in this way were frequently met with in the French war of 1870-71.

On the day after the battle of Weissenburg two cavalry regiments sent to reconnoitre towards Hagenau were stopped by a party of the enemy's infantry holding a broken bridge, and compelled to fall back without accomplishing their object. On the other hand, in the advance of the IInd Army to the Moselle, two of its cavalry brigades covering the front were brought to a stand at Pont à Mousson by some French infantry occupying the town and vineyards to the east of it. A squadron of hussars was dismounted, and, after a skirmishing action with the French, drove them through the town and opened the way for the cavalry. Even on an emergency when all three arms are engaged, cavalry that can fight on foot may render valuable service. At the battle of Spicheren the necessity for sending reinforcements to the front left only two squadrons of dragoons and a company of sappers to hold Forbach. On the approach of the advanced guard of the XIIIth Prussian Division the dragoons dismounted, and occupying an intrenchment held the Prussians in check for a time by their fire in conjunction with

the sappers. When finally outflanked and outnumbered, they remounted and retired to a position in rear, having first charged the enemy. Again, on August 31, Clérembault's Cavalry Division having got separated from the infantry, a squadron was dismounted to hold the enemy's infantry in check until their own had come up. The fire from the village of Corny in their front became so galling that a regiment of dragoons was dismounted and ordered to attack the village. This they did successfully, and held it until their own infantry arrived.

But the employment of cavalry in this way must be looked on as exceptional, yet the necessity that may arise for it, particularly in reconnoitring, cannot be disregarded.

EXAMPLES OF CAVALRY ACTION IN BATTLE. See PLAN XI.

Movements of Kellerman's Cavalry Division at the battle of Austerlitz—(1805).

In the early part of the battle Kellerman's Division (4 regiments) was formed in a single line, in front of the right of the 5th Corps.

The 5th Corps was moving in two lines—the first deployed, the second in column of battalions.

1st Charge.—In this position 10 squadrons of Russian Lancers suddenly advanced against Kellerman's right. To avoid being taken in flank, Kellerman at once ordered a change of front to the right on the 1st squadron of the 2nd (left) brigade. But the first brigade was caught by the Russians in the middle of the movement, and the whole completely overthrown.

The Russians pursued until they reached the French Infantry where they were met by a heavy fire, and retired with a loss of about 400 men.

2nd Charge.—Kellerman re-formed his Division in two lines, between the 1st and 2nd lines of the 5th Corps, and thence moved out in pursuit of the Russians.

He advanced in echelon of regiments from the right—supported on his left by his Artillery and Triellard's Cavalry brigade—on his right by Nansouty's Division—in rear by Sebastiani's brigade.

To cover the retreat of the Russian Lancers, General Uwarow now moved forward with three Cavalry regiments, and attacking Kellerman enveloped his leading regiment. Sebastiani at once changed front to the right and fell on the left flank of the enemy's squadrons. The remainder of Kellerman's echelon coming up by successive regiments on the left, attacked the Russians on their right flank.

3rd Charge.—The Russian Cavalry was overthrown, and Kellerman, rallying his whole Division *to the front* on a single line, again charged, inflicting considerable loss on the enemy and capturing some guns.

The enemy's reserve was now seen coming up, so Kellerman withdrew his Division and re-formed in two lines in rear of Sebastiani's brigade. As soon as it was re-formed his Division again took its place in front.

In the meantime the Russians had advanced three Cavalry regiments from the reserve.

4th Charge.—Kellerman now prepared for a fourth charge. He had Sebastiani's brigade in support of his flanks, and the two remaining brigades of Walther's Division in rear. This charge was also successful and some guns were captured. But the Russian Infantry on this flank was as yet unbroken, and their fire was so destructive that the French Cavalry had to fall back, abandoning the captured guns.

In this charge Kellerman had his leg broken, and General Picard, who replaced him, rallied the Division, forming it up in two lines in rear of Walther's Division.

General Uwarow attempted pursuit with the ten squadrons of Russian Lancers, now re-formed, but Walther, with his three brigades in two lines, charged and overthrew them, thus securing Kellerman's retreat.

5th Charge.—Kellerman's Division being re-formed again advanced for a fifth charge, and again overthrew a second time the three regiments of the Russian reserve Cavalry. The regiment on the right of the front line followed in pursuit, while the regiment on the left attacked in rear the Russian battery already once captured. This time the battery was definitely secured.

The two regiments of Kellerman's second line closely supported by Sebastiani's brigade, with the rest of Walther's Division in reserve, charged the Russian Infantry. One battalion was surrounded and laid down its arms, but a timely charge by the regiment Twer of the Russian reserve liberated this regiment and inflicted heavy loss on the French. These two regiments of Kellerman's second line rallied behind Sebastiani's brigade.

Some French artillery had now got near enough to the Russian Infantry to better prepare the attacks of the Cavalry.

6th Charge.—The two regiments of Kellerman that formed his second line in the previous charge, supported by Walther's Division, now executed a sixth charge, and this time broke through the enemy's Infantry.

Kellerman taken in flank manœuvring for his first charge was completely routed.

Attacking Infantry unbroken.—The attack of the ten Russian squadrons on the Infantry of the 5th Corps, following up Kellerman's defeat, resulted in their complete discomfiture with heavy loss. Kellerman's 2nd, 3rd, and 4th charges overthrew the Russian Cavalry and got temporary possession of some guns, but the Russian Infantry, still in good order, drove back the French Cavalry and obliged them to abandon the guns.

In their fifth charge Kellerman's Hussars made a direct attack on the Russian Infantry; but the latter, which had not yet been shaken by the French Artillery, completely repulsed them.

Before Kellerman's sixth charge Artillery had been brought to play on the Russian Infantry, and it was owing to this that the charge succeeded in piercing the line.

2nd Line.—The first charge of the Russian Lancers against Kellerman was made without a second line or reserve. Hence their ultimate defeat and pursuit was all the more complete.

On the other hand, when the Russian Cavalry attempted to pursue Kellerman, repulsed by the Russian Infantry in his 4th charge, Walther's Division, by whom he was supported, charged and defeated the Russians, and securely covered Kellerman's retreat.

Reserve.—In each of Kellerman's charges his two lines were supported by a strong force in reserve. The number of squadrons actually engaged at any time was but a small fraction of the whole Cavalry force close at hand. Thus after his third charge he rallied behind Sebastiani's brigade. After his fourth charge he rallied under cover of Walther's Division, and after the fifth charge the Division again rallied behind Sebastiani's brigade, and at once moved to the front and successfully delivered a sixth charge.

Covering Flanks.—In the Cavalry charges at Austerlitz the French protected their flanks by Cavalry echeloned in rear.

In Kellerman's second charge, when his leading regiment was enveloped by the enemy's Cavalry, Sebastiani coming up from his right

rear fell on the Russian left flank, while Kellerman's other regiments on the left, fell on their right flank.

Advantage of gaining Enemy's flanks.—The advantages of attacking Cavalry in flank are seen by Kellerman's overthrow by the Russian Lancers, when taken in flank in the early part of the battle.

By the defeat of Uwarrow's Cavalry in Kellerman's second charge.

Cavalry re-forming after a Charge.—Kellerman after his first charge re-forms in two lines behind the first line of Infantry.

In his third charge *in one line*, when threatened by the Russian reserve Cavalry, he *retires* and re-forms in *two lines* behind Sebastiani.

Repulsed in his fourth and fifth charges by the Russian Infantry he *retires* behind his supports to re-form.

After his second charge only did he re-form *to the front*, and quickly effected another charge.

General Rapp's charges at Austerlitz.

During the battle of Austerlitz two French Infantry regiments venturing too far in pursuit of some Russian Infantry, were charged by ten squadrons of the Russian Guard. These squadrons rode through the French and continued their career until they arrived at the foot of the hill where Napoleon was standing, with the Cavalry and Infantry of the Guard drawn up behind him.

He ordered General Rapp to move out against the Russians with five squadrons of the Guard.

General Rapp formed these five squadrons into two lines—three squadrons in front, two in rear.

Marshal Bessières moved out in rear and considerably to the right with four more squadrons, echeloned in two lines, to secure Rapp's right flank.

The Russians did not await Rapp's attack, but retired again through the French Infantry, and formed up in a single line in front of their Infantry.

In this position Rapp charged them with his five squadrons formed as above, completely overthrew them, and drove them back on their own Infantry.

Rapp instead of pursuing, at once re-formed the three squadrons of his first line in rear of the two squadrons in support, and advanced for another charge. He was now opposed by eight fresh Russian squadrons, who charged him in the following formation—In the front line five squadrons of the Cheva'liers-Gardes—the 1st and 2nd in ob-

lique line on the right, threatening Rapp's left flank,—the 4th and 5th similarly disposed on the left, the 3rd squadron in the centre. Three squadrons of the Cosaques of the Guard followed in support of the centre squadron.

To meet this Rapp still kept his three squadrons in the front, and drew forward the two others immediately in support on to his left flank. The remaining four squadrons he retained echeloned to the rear of his right.

It was sought by the Russians in this movement to simultaneously charge the French in front and flank. But in executing it they were themselves taken in flank on their left by the judicious disposition of the four squadrons on Rapp's right, and at the same time they were also taken in flank on their right by the two squadrons that he had brought forward on his left.

The 4th and 5th squadrons of the Russian Chevaliers-Gardes were completely overthrown by the attack on their flank, the 4th squadron being almost annihilated.

A similar result attended the French flank attack on the 1st and 2nd squadrons on the right. After a severe *mêlée* the victory remained with the French, the Russian loss being reported at 16 officers, 200 men, and 300 horses.

In Rapp's first charge, the overthrow of the Russians exemplifies the evil of awaiting a charge at the halt—also of fighting with the whole force in the first line. Only three of Rapp's squadrons were actually engaged, and they put ten Russian squadrons hors de combat. Had the Russians formed a portion of their force in second line, ready to fall on the French during the disorder that ensues immediately after collision, their defeat would at all events not have been so decisive.

In the charge of the Russian Cavalry of the Guard, in which they rode over a French Infantry regiment, the Cavalry was on one line. The moment they had passed, the French regiment fell in again. Had there been a second line the regiment would have been captured, or at least so far disorganised as to be unable to fight again that day.

In Rapp's first charge he placed three squadrons in the first line and two in the second, while four more followed in echelon on his right. After his first charge he re-formed his first line in rear of the two squadrons in support.

In his second charge he had three squadrons in the first line—threatened on his flanks by the formation of the Russian Cavalry opposed to him, he placed his two squadrons in support in rear of his

left flank, and brought up the remaining four squadrons in rear of his right. He thus secured his own flanks and also gained the enemy's.

Seydlitz's charge against the Russian Cavalry in column, at the battle of Zorndorf—(1758).

At an early period in the battle of Zorndorf, a timely charge of the Russian Cavalry overthrew 8 battalions of the Prussian left wing, and captured 26 pieces of Artillery. After the charge the Cavalry halted on its own ground and formed up in column, the same formation in which it had charged. A small stream divided this Cavalry into two portions, the right column being formed of 20 squadrons, and the left of 12.

The Prussian general (Seydlitz) commanding the Cavalry on this flank, moved forward with 23 squadrons against the Russians—with five squadrons in front line he charged the right angle of the right Russian column, while the remaining 18 squadrons, following in support, divided into two bodies to the right and left and fell on the flanks and rear of the Russians. The Russian column awaited this attack at the halt, and the result was that it was completely broken up, and so dispersed that it did not appear again on the field of battle.

The left Russian column seeing the utter rout of the right took refuge behind the Infantry.

Charge of the Heavy Brigade at Balaklava.

At the battle of Balaklava, General Scarlett was ordered to move with eight squadrons of Cavalry from one part of the field to another, in support of some Turkish Infantry.

He started with the Inniskillings, the Greys, and the 5th Dragoon Guards, in all six squadrons, and sent word for the 4th Dragoon Guards to follow, and so make up the eight squadrons.

His route lay through a valley, parallel to which on his left ran a line of high ground, known as the Causeway Heights, the summit of which was from 700 to 800 yards distant. While still on the march a column of Russian Cavalry, variously computed at from 2,000 to 3,000 men, suddenly appeared over this ridge and moved down perpendicularly on the flank of General Scarlett's column.

Scarlett instantly decided on charging this column.

The squadrons immediately under his hand were the 2nd squadron of the Inniskillings and the two squadrons of the Greys; the 1st squadron of the Inniskillings was a little in advance and to his right; the 5th Dragoon Guards also to his right, a little in rear. So when he

formed line he had the 2nd squadron of the Inniskillings and the Greys in his first line ; the 1st squadron Inniskillings on his right rear ; the 5th Dragoon Guards on his left rear.

In the meantime, the Russian column was moving down the hill in the direction of Scarlett's force, but when it came within about 400 yards it halted. The front of the column was now extended by the deployment of some squadrons on each flank.

The British force about to charge this column numbered from 400 to 500 men, of whom about 300 were in the front line.

General Scarlett, leading the first line, charged in front the centre of the column. This line broke the leading ranks of the Russians and penetrated into the centre of the column.

The Russian squadrons deployed on the flanks, now wheeled inwards as if to envelop the British.

The Royals came on the ground at this moment, and at once charged the Russian right wing while in the act of wheeling. The outer part of the Russian wing only appears to have been disturbed by this charge, as the inner portion still continued the wheel. The 5th Dragoon Guards advancing in support of the Greys, now took the same wing in flank and rear.

About the same time the 1st squadron of the Inniskillings similarly charged the Russian left wing when it had nearly completed its inward wheel.

The 4th Dragoon Guards had in the meantime come up, and moving quickly forward, formed line to the right and charged the centre of the right flank of the Russian column, penetrating far into it.

The Russian column now quickly broke up and fled.

At Balaklava, as at Zorndorf, nearly a hundred years previously, the Russians committed the same two faults of awaiting a Cavalry charge at the halt, and using the column as a fighting formation.

The evil of Cavalry changing formation within reach of the enemy is also seen in the action at Balaklava, as the Russian wings were caught by the British Cavalry in the middle of their inward wheel.

Cavalry action at Nachod—(1866).

In the battle of Nachod (1866), the Prussian Cavalry brigade Wnuck, formed of the 1st Lancers and 8th Dragoons, was drawn up near Wysokow, when 5½ squadrons of Austrian Cavalry appeared on the plateau.

The Austrians were formed with $3\frac{1}{2}$ squadrons in single line, and a squadron echeloned in rear of each flank.

The 1st Prussian Lancers were moved out against the Austrians, and as the Prussian left was threatened by the squadron echeloned to the rear of the Austrian right, the remaining Prussian regiment (the 8th Dragoons) moved out in support.

While the Austrian front line charged the Prussian Lancers in front, the right of the latter was taken in flank by the Austrian squadron held back on that flank. So that at first the Austrians had the best of the fight.

But a Prussian squadron of the 4th Regiment, that had been watching the Skalitz road, now charged down on the left flank of the Austrians, while the 8th Prussian dragoons had by this time deployed and moved down on their right flank. This effectively decided the combat in favour of the Prussians. The Austrians were driven off the field, losing two standards.

In this action is seen the importance of gaining the enemy's flanks—also the certainty of success to the side which has the last squadrons left to use in this way. The Austrians, at first successful, were ultimately defeated with heavy loss by the Prussian attacks on their flanks.

The Charge of the Cuirassiers of the French Guard at Mars la Tour.—
(1870).

During the battle of Mars la Tour, at a moment when Bataille's Division of the 2nd Corps was being hard pressed by the Prussian infantry, General de Preuil was ordered to charge this infantry with the Cuirassiers of the Guard. He at once pointed out that the enemy's line was at such a distance that a charge had no chance of succeeding unless the enemy was first shattered by artillery.

An unqualified order to charge at once being repeated, he moved against the Prussians in three lines—two squadrons in the front, two in the second, and one in the third.

The first line appears to have started off at a very rapid pace, for the second line, which the General accompanied, following at 150 paces, was ordered to slacken speed as the pace was too fast, so that the first line got considerably ahead.

On nearing the enemy the advance of the first line was suddenly checked by some hitherto unperceived obstacles.

Inclining to a flank as they advanced, to pass these obstacles, the two leading squadrons were thrown into disorder, which increased considerably on receiving a heavy fire from the enemy, at a short range.

Zion
1805

Squad. Gr
Squad. Ch

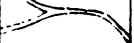
Squad. H

2
Squad. Ch

Cheval
Cossack



sgt





The leading squadrons came first on two Prussian companies deployed in line, who reserved their fire till the French had got within 250 paces. Its effect was murderous. Dividing to the right and left, the cavalry passed onwards, when the Prussian rear ranks faced about and kept up the fire. The French, continuing the charge, came on a battalion of the 12th Prussian Regiment, and in rear of that the xith Brigade advancing between Flavigny and the high road. The effect of their fire was to 'strew the field with dead and wounded.'

The second line had now come up, and when at about 100 yards they received the order to charge, the Prussian fire emptied half the saddles.

The third line still came resolutely on, but had equally to fall back again with similarly heavy loss.

The French loss is reported at 22 officers, 208 rank and file, and 243 horses.

In this charge is perceived the loss that must ensue to cavalry by charging infantry in good order, and unshaken by artillery. Also the necessity for reconnoitring ground beforehand, over which cavalry is about to charge.

CHAPTER XI.**PRINCIPLES OF EMPLOYMENT OF ARTILLERY.**

THE action of artillery consists in fire alone, but of this it possesses several kinds, suitable to different objects and different distances. In addition to the greater power of its projectiles, it has also over infantry great advantages of range.

Thus it can act destructively against the other arms at distances at which they are powerless to injure it.

The different kinds of projectiles used in a battle are:—

Common shell.

Shrapnel or segment shell.

Case shot.

Common shell would be used against troops in masses, or behind cover, and for enfilading troops in line.

Also against artillery, when the object is to damage the guns and carriages. It would be employed to batter down buildings, parapets, or other kinds of entrenchments.

Shrapnel or segment shell would be used against troops in line or open order; and against artillery when it is sought to kill the men and horses. Also against troops behind slight cover through which shells could penetrate, bursting in their passage.

Case shot is serviceable against troops under the same conditions as shrapnel, but it is only effective at very short ranges.

The extreme effective range for common shell and shrapnel is not limited so much by the distance the gun can carry, as by the accuracy with which it can be laid. For as the power of vision is restricted, a projectile, with the present ordnance, can

be projected further than can usually be discerned by those firing the piece.

But it is essential to effective firing that the object to be hit be clearly seen, as also the spots where the first shells fall. For it is by closely observing the latter that the aim is corrected until accurate shooting is arrived at.

It is found that even with a clear atmosphere these observations cannot be made at a greater distance than 2,500 yards, and this will diminish according as obscuring influences increase. Thus at the battle of Borny a battery of the 1st Prussian Corps came into action against an enemy's battery at about 800 yards. The enemy's fire was so intense, and the sun being in the eyes of the Prussian gunners, they had the greatest difficulty in discerning where their own shells fell. They fired some time before discovering that they were short of the range, when they increased it to 900 yards, and subsequently to 1,000 yards, before their fire became effective. Thus the first essentials to good firing are finding the exact range and then accurately laying the piece.

As the power of clearly seeing the object to be hit fixes the extreme distance at which guns can come into action with advantage, so the effective range of breech-loading rifles limits the extent to which that distance can be diminished. For guns cannot be worked within the circle where aimed fire from infantry assumes a certainty.

This is computed at 900 yards; at that range infantry should destroy artillery. In the struggle for the heights of Colombey in 1870, a Prussian battery came into action within about 1,000 yards of French infantry and mitrailleuses. The enemy's fire was so destructive that in ten minutes the Prussian battery was nearly wrecked, and so many men and horses were killed that it required the assistance of some infantry to withdraw it under shelter in a totally shattered condition. For common shell and shrapnel the range will vary from 900 to 2,500 yards.

But for case-shot the range is very much less, and its effect

cannot be relied on above 350 yards. This would seem to exclude its use altogether, as infantry fire being so much more effective than case, artillery would suffer greater loss than it could inflict. But occasions will occur when a battery will find itself within case range of the enemy, or even when it will have to deliberately advance to that range—as when it is attacked and has to fight at close quarters—when it is of importance to hold a position to the last or arrest at any price a forward movement of the enemy—when the enemy is in retreat or has become broken or demoralised. In the attack of Fröschwiller, at the battle of Worth, a Prussian H.A. battery repulsed single-handed an attack of French cavalry by case fire. During the same battle the attack and capture of Elsasshausen by the Prussians had so exhausted and disorganised their infantry that a vigorous counterstroke by the French drove them back again into the Niederwald. But two Prussian batteries came into action on the left of the village and fired case, checking the French advance while the retreating infantry was being re-formed and led on again. At the same time a H.A. battery, coming up on the right of the village, unlimbered and came into action, though their own infantry about them was at the time retiring. After a few rounds of shell the battery received the advancing enemy with case, and finally forced them to retire, though they had got within 150 yards of the guns. At the battle of Salamanca, in the desperate efforts of Macune's Division to form a line of battle against Pakenham's sudden attack, the French gunners covering the infantry deployment and firing case, served their guns to the last. One officer, left standing alone, fired the last gun at a distance of a few yards. At Friedland, when Senarmont perceived that the Russian infantry began to waver, he advanced his battery to a closer range and fired case only. But this would be impossible with modern rifles unless the infantry was actually broken.

The most suitable position for artillery is elevated ground sufficiently level to work the guns on, possessing an extensive command and good lines of retreat. The slope towards the

enemy should be gradual, as the lie of the ground will then accord with the flight of the shell in the latter part of its course, and so bring a greater area within its destructive effects. Such ground, too, greatly facilitates ricochet. On the other hand a steep slope produces plunging fire, and when the aim is not accurate further effect is lost once the projectile strikes the ground, as it remains buried where it falls. The position of the Russian batteries at the Alma has been quoted to exemplify disadvantages of the latter kind. The position of the Austrian batteries on the heights of Lipa, sloping down like a glacis to the wood of Sadowa, where they checked for several hours the advance of the 1st Prussian Army, is a good instance of the immense effect of artillery where the ground is favourable.

The nature of the ground itself is also of importance. If it be very soft it is difficult to move the guns, as while they are in action this must be done by the gunners. But soft or marshy ground in the neighbourhood, when it does not impede the moving of the pieces, is advantageous, inasmuch as it holds the enemy's shells where they fall and prevents them from ricocheting. Stony ground, on the other hand, has the disadvantage of exposing the men and horses to serious injury from splinters.

● Too much importance cannot be attached to providing cover for the latter. Besides reducing the chance of casualties amongst the gunners, it enables them to work their guns with the steadiness essential to effective firing; and if the horses are not preserved the battery is powerless to support the further advance of the other arms, and liable to capture in case they are forced to retire. An instance of the importance of even slight cover occurred at Waterloo, where Mercer's battery came into action behind 'a bank of about a foot and a half or two feet high, along the top of which ran a narrow road.' Such protection did even this bank afford the battery that, in Major Mercer's words, 'The shower of shot and shells must have annihilated us, had not the little bank covered and thrown most of them over us.' In the first success of the Prussians against Stiring Wendel at the battle

of Spicheren, the French had to abandon five guns through want of horses to withdraw them, so great had been the destruction among their teams.

Additional importance attaches to the choice of artillery positions from the disadvantage attendant on their having to be often changed. Guns are only of use as long as they are stationary; all movement not only entails loss of fire while it lasts, but loss of time in the next position in getting a fresh range. The increased effect obtained by diminishing the range for small distances does not compensate for the disadvantage of movement. Hence changes of position should be made as rarely as possible, and seldom for an advance of less than 800 yards, except in all cases where ground in front actually impedes the view. When guns move, they cannot do so too quickly.

It is a matter of experience that the concentrated fire of several guns on a particular point is infinitely more effective than the aggregate fire of these guns on different points. But guns when massed to procure concentrated fire offer a larger target to the enemy. If therefore concentration of fire together with dispersion of guns could be arrived at, all the good would be attained without the evil. But the configuration of the ground will rarely admit of a dispersion of batteries and at the same time a concentration of their fire; and moreover, this very dispersion would militate against one of the first essentials to efficiency, individual direction of the action of the whole. In practice therefore it is found that concentration of fire can only be obtained by the massing of batteries. The decisive effect produced by the skilful use of masses of artillery has long been a recognised feature in warfare, but the admission of it as a principle may be said to date from the battle of Eylau. The destruction of Augereau's Corps in that battle by the concentrated fire of some 70 pieces of artillery is said to have profoundly impressed Napoleon with the enormous effect to be procured from artillery when conditions admitted of making it for the time the principal arm. Later on

in the same campaign we find Senarmont at Friedland massing the divisional artillery of Victor's Corps into two batteries, and producing with them an effect that astonished even the Emperor. In the next campaign, of 1809, 100 French guns were formed into one battery against the Austrian centre at Wagram. In 1812, at the battle of Borodino, the attack on the Russian position was prepared by 120 guns formed into three batteries, and later in the day we find the artillery of Ney, Davoust, and Murat, together with the reserve artillery of the guard, amounting to some 200 guns, formed in mass along the ravine of Semenoffskoi, and concentrating its fire with terrible effect on the Russian infantry between the latter village and the great redoubt. Similar instances occur at Lutzen and Leipsig; and finally, at Waterloo, more than 70 guns were massed on the right of the Charleroi road to prepare the attack of d'Erlon's Corps.

But a careful distinction must be drawn between the simple collection of guns in large numbers and the skilful application of their fire in masses. For, even in Frederick's time, we find guns massed in considerable numbers without much decisive effect arising from it. At Zorndorf the Russians formed a battery of over 60 guns on their right, yet the fire being scattered along the Prussian line no particular effect was produced by it. Again, at Austerlitz, Lichtenstein formed 40 guns into one battery, yet from want of intelligent direction, and joint action with the artillery on his right against the advance of Lannes' Corps, no striking results were obtained.

Since the wars of the first Empire there has been a gradual tendency to neglect this principle of massing guns for offensive action, until the campaign of 1866 became remarkable for the feeble part played in it by the artillery of the victors. But this evil was bound to correct itself, as success could only be obtained by inflicting an undue share of labour and loss on the other arms. So in the campaign of 1870-1 we find the massing of guns adopted as a principle by the Prussians. Yet the principle is not new, but like the employment of cavalry on a large scale for

reconnoitring, its oblivion for a time has only made the effect its revival the more observable.

The fire of artillery may be direct, oblique, cross, or flank. Of these the first is usually least effective, the last the most. The sudden opening of an enemy's battery on the right flank Ney's Corps at Friedland produced an effect by the direction of its fire that would otherwise have been out of all proportion to the number of guns in the battery. At the battle of Praga the Prussian infantry had been driven back in great disorder by their attack on the right of the Austrian position. But the Prussians having established a battery at the angle formed by the two Austrian lines, opened such a destructive flank fire that both that it materially contributed to gaining the battle. At Lutzen a Prussian battery, taking two French batteries in flank, quickly dismantled three of their guns and forced the remainder out of action. At the battle of Spicheren three Prussian batteries were engaged for some time on the slopes of the Rippenberg in a direct fire on the enemy's guns on the Rotherberg, with no visible effect. The Prussian commander, moving his guns to the south-west slopes of the Winterberg, obtained a flanking fire on the same guns that quickly obliged them to withdraw.

Major Mercer's account of the destruction of his own battery by flank fire at Waterloo is so vivid a picture that we give it in his own words. 'On the ridge opposite to us dark masses of troops were stationary, or moving down into the intervening plain. Our own advancing infantry were hid from view by the ground. We therefore recommenced firing at the enemy's masses, and the cannonade spreading, soon became general again along the line. While thus occupied with our front, we suddenly became sensible of a most destructive flanking fire from a battery which had come, Lord knows how, and established itself on a knoll somewhat higher than the ground we stood on, and only about 400 or 500 yards a little in advance of our flank. The rapidity and precision of this fire was quite appalling. Every shot almost took effect, and I certainly expected we should

all be annihilated. Our horses and limbers being a little retired down the slope had hitherto been somewhat under cover from the direct fire in front; but this plunged right amongst them, knocking them down by pairs and creating horrible confusion. The drivers could hardly extricate themselves from one dead horse ere another fell, or perhaps themselves. The saddle-bags in many instances were torn from the horses' backs and their contents scattered over the field. One shell I saw explode under the two finest wheel horses in the troop—down they dropped. In some instances the horses of a gun or ammunition waggon remained, and all their drivers were killed. The whole livelong day had cost us nothing like this. Our gunners too, the few left fit for duty of them, were so exhausted that they were unable to run the guns up after firing, consequently at every round they retreated nearer to the limbers; and as we had pointed our two left guns towards the people who were annoying us so terribly, they soon came altogether in a confused heap, the trails crossing each other, and the whole dangerously near the limbers and ammunition waggons, some of which were totally unhorsed, and others in sad confusion from the loss of their drivers and horses, many of them lying dead in their harness attached to their carriages. I sighed for my poor troop—it was already a wreck. . . . Our situation was indeed terrible: of 200 fine horses with which we had entered the battle, upwards of 140 lay dead, dying, or severely wounded. Of the men, scarcely two-thirds of those necessary for 4 guns remained.'

*EXAMPLE OF GUNS IN ACTION AT THE BEGINNING OF
AN ENGAGEMENT.*

Worth. See PLAN XII.

On the annexed plan is shown the position of the whole of the artillery of the vii Prussian Corps at 9.30 A.M. on the morning of the battle of Worth, when brought into action to prepare the attack of the infantry.

Thirteen batteries (seventy-eight guns) are massed against the French centre on a front of about 2,000 yards. This allowed about 26½ yards to each gun.

The distance of the enemy's line of guns, on which fire was first opened, varied from 2,000 to 3,500 yards.

The Prussian fire from this position was so effective that 'it had hardly commenced when the mitrailleuses found themselves compelled to withdraw.' 'The whole line of the French artillery was soon reduced to silence; only one battery on their left flank continued in an advantageous position.'

Further to the left twelve batteries of the xith Corps came into action on the high ground near Gunstett, to prepare the attack by the infantry on the French right flank. The two remaining batteries were held back from want of space.

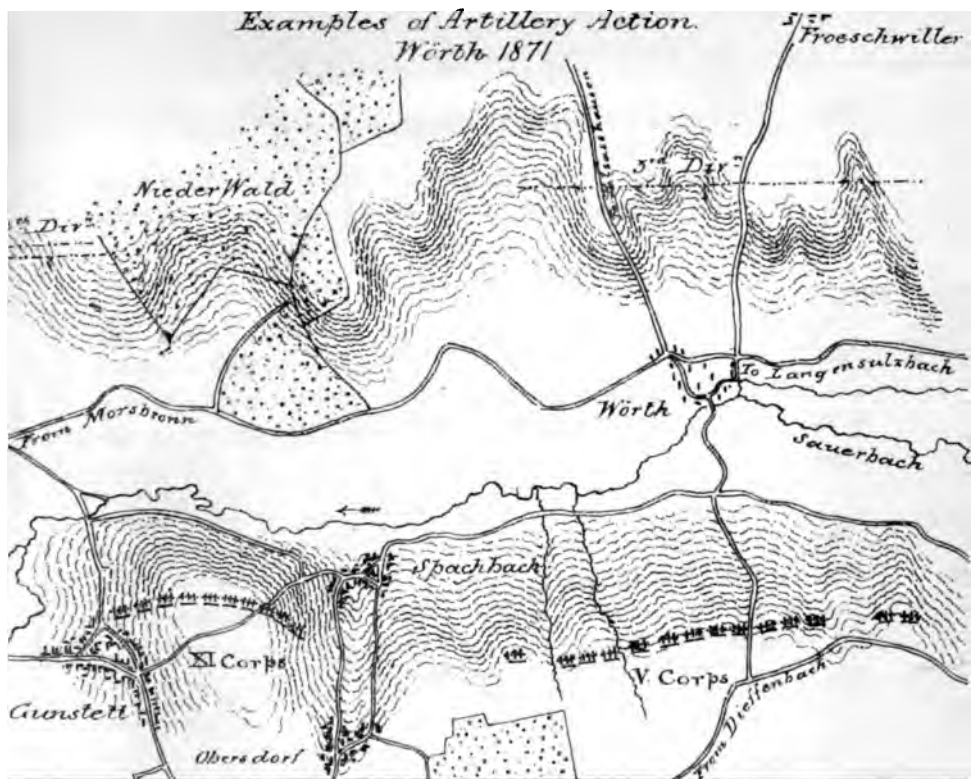
Here 72 guns occupied a front of about 1,500 yards, allowing less than 21 yards to each gun.

EXAMPLE OF GUNS IN ACTION DURING THE COURSE OF AN ENGAGEMENT.

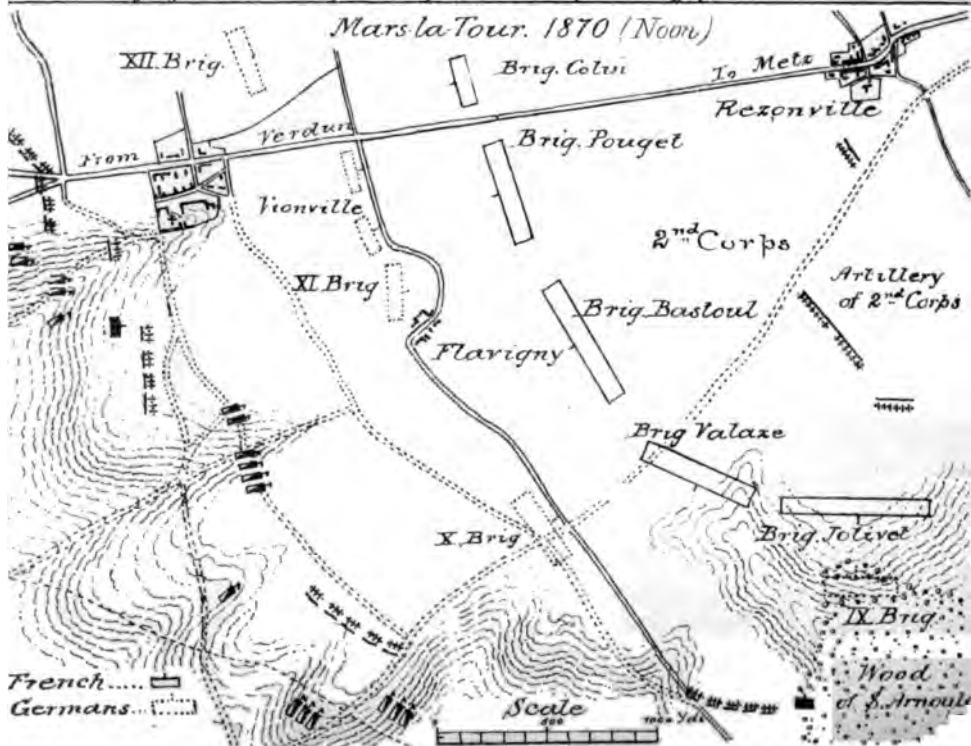
Mars la Tour.

In the lower part of Plan XII. is shown the position of the German artillery about noon at the battle of Mars la Tour, when the infantry had been already some time engaged. Here the conditions of the fight required the Germans to occupy an extended front, but the principle of massing batteries in each locality where they were employed was still adhered to. At this moment there were 120 guns in action, divided into four masses, one of 36, two of 30, and one of 24 guns.

Examples of Artillery Action.
Wörth 1871



Mars-la-Tour. 1870 (Noon)





CHAPTER XII.

THE THREE ARMS COMBINED.

ATTACK.

ALL dispositions for combining the action of the three arms should accord with the special qualities of each and the character of the ground. In sustaining a fight and determining its issue, the infantry becomes paramount. The other arms may at certain periods temporarily assume the principal rôle, but their action on the whole must be regarded as subsidiary.

The conditions of modern fighting require more than ever that all attacks be opened by artillery, and until considerable effect has been produced by its action, no position should be assaulted by infantry. Suitable points for the guns must then in the first instance be secured, and the other arms in the meantime held back under cover.

The artillery fire will at first be directed against the enemy's batteries, for it is from the latter that the attacking infantry would first have to suffer. When its fire has produced sufficient effect, the infantry is pushed forward and gains as rapidly as possible positions at which its fire would be effective. In this advance all cover afforded by the ground should be availed of, obstacles quickly surmounted, and rallying points in front of the enemy's position seized and occupied. The artillery does not limit itself to preparing the attack of the infantry, but manœuvres throughout the action in support of the other arms. It conforms especially to the movements of the infantry, whose advance it follows, and engages the enemy at shorter ranges.

During the course of the action its fire will, as a rule, be directed against the enemy's infantry, and only to a minor extent against his artillery. Its special object should be those parts of the enemy's position against which its own infantry is employed for a decisive effect. On these its fire should be concentrated.

When the hostile artillery is in great force, part of the guns must be used against it, while the remainder act against the hostile infantry. In this case the batteries engaged against those of the enemy may be continued in action at a distance, but those acting in immediate support to the infantry must conform to its advance and move forward to closer ranges. Guns should not, if it can be avoided, advance within range of the enemy's infantry, but this is often, notwithstanding, indispensable. For the material aid they afford their own infantry at close ranges in prosecuting an attack, more especially when the defence is very obstinate, makes the sacrifice entailed in the loss certain to ensue a necessity. Thus, at Borny, four Prussian batteries of the 1st Corps advanced beyond the defile of La Planchette and came into action with great effect, 300 yards in rear of their own skirmishers, and within from 900 to 1,200 of the enemy's infantry and artillery. Though suffering heavy losses, they maintained this forward position to the end, and contributed powerfully to the success of the infantry. In the attack on Vionville at the battle of Mars la Tour, two batteries advanced with the supports to the skirmishers of the leading battalions, to whom they afforded important aid, though they suffered seriously from the enemy's musketry. But in this latter battle the Prussian artillery was constantly in action within range of the enemy's infantry, to afford more effective support to its own, and the influence it exercised in the different phases of the contest was conspicuous and decisive.

When the enemy is considered to be sufficiently shaken by the combined fire of the artillery and infantry, the latter will advance rapidly, and seek to come to close quarters. In

effecting this, exposed flanks or other weak points should be aimed at.

In its movements during the action the artillery must, as a rule, rely for protection on the other arms with which it is associated for battle. Yet to ensure its full co-operation, great latitude should be allowed it in occupying the most effective positions. As this may sometimes withdraw it from the immediate support of the other arms, a special escort of cavalry or infantry would then be provided. For guns should never be left absolutely unprotected.

Modern warfare has reduced the rôle of cavalry on a battle field to very insignificant proportions. It has ceased to be used in great masses, or rather the attempts to use it in this manner have had as yet scarcely satisfactory results. Employed in small bodies it can seldom produce effects other than temporary and indecisive, and would be chiefly employed rather to protect the other arms against the enterprises of the enemy's cavalry than to seek opportunities of separate action for itself. It should be constantly on the alert to act, as favourable opportunities only occur at intervals and arise and disappear rapidly. It should be kept under cover when not engaged, but never so far from its own infantry as not at any moment to be ready to take part in the fight. The flanks being usually the weakest parts of the line, it would often be advantageously disposed for their protection. But its position with reference to the other arms must mainly depend on the facilities afforded by the ground for manœuvring, as it would clearly be a mistake to retain it where the locality was unfavourable for its action. It would be most effective in charging the enemy's infantry when badly repulsed or in disorder, in paralysing his movements by threatening exposed flanks, in vigorously following up a success, or warding off disaster from a defeat.

Should the infantry succeed in carrying the position, some guns should be quickly brought forward to aid in securing possession of it. They will powerfully contribute to defeat a

counter attack, which must at this time be expected, procure the infantry time to rally and restore order, while their fire will prolong the disorder of the enemy's retreat.

On the cavalry would fall the duty of making good any decisive success gained. What the infantry has made a defeat, the cavalry and artillery should convert into a rout.

DEFENCE.

THE defence, as we have seen, relies in the first instance for success on the destructiveness of the fire with which it can ply the enemy in his approach. The general disposition of the infantry, as well as its mode of action, has been already dealt with. It remains to examine how the other arms co-operate.

In bringing the fire of artillery to bear, it is needless to say that the best positions must be carefully selected beforehand. The principle of massing guns should here also be observed, the heavier being placed on the most commanding ground, and for the defence of the most important approaches. The advantage of being able to previously ascertain the exact distances at which the advancing enemy becomes most exposed will allow of opening an effective fire at comparatively long ranges.

The enemy's artillery will first engage the attention of that of the defence, and the latter should endeavour to concentrate an overwhelming fire on its different fractions as it comes gradually into action. But this artillery combat should only continue as long as the attacking infantry does not come within range. As soon as the latter appears the efforts of the artillery must be mainly directed against it, except where the defenders have a great superiority in guns, when part will still continue to act against the enemy's.

Should, however, the enemy, by surprise or otherwise, assemble from the outset a greatly superior force in artillery, that of the defence should not risk being destroyed in an artillery duel of unequal combat. It had better under these circumstances

be withdrawn from action and reserved for the approach of the enemy's infantry. But when the latter comes within effective range the guns of the defence must be brought into action against it and maintained there regardless of the hostile artillery. For it is to defeating the enemy's infantry that every effort must be made to tend ; damaging his artillery would be of little avail if his infantry succeeded in carrying the position.

Yet opportunities will occur throughout an action, which should not be neglected, for temporarily acting with great effect against the hostile artillery ; such as when batteries are coming into action, changing position, or exposing a flank.

In nearly all cases the approach of the enemy's infantry necessitates a corresponding advance of his artillery. This will frequently bring it within range of the defenders' infantry and thus release their artillery to act against the attacking infantry. Infantry fire against artillery, if within range, is particularly destructive, and it is a noticeable fact in the last war that in obstinate contests for localities the heavy losses sustained by artillery were mainly due to infantry fire.

If certain parts of the front require to be reinforced with artillery, these fresh guns should, when possible, be brought into action against the enemy's flanks. Guns in action on the defence must continue to hold their ground until actually ordered to retire ; and if the enemy succeeds in approaching to short ranges they must then fire case and sustain the infantry to the last.

The cavalry of the defence will, as in the attack, watch its opportunities for action. Previous to the attack a part would be kept well in front, both to observe the movements of the enemy as well as to prevent his reconnoiters from discovering the position or movements of the defenders. Its usual place would be in the neighbourhood of the general reserve when not required for the protection of special points, such as flanks. But when the whole force engaged is not large the mobility of cavalry will enable it to be rapidly transferred to where its action may be required.

CHAPTER XIII.

PRINCIPLES OF ATTACK AND DEFENCE.

DEFENCE.

IMPROVEMENTS in fire-arms have led to important alterations in formations for fighting, but tactical principles have been little disturbed. These remain fundamentally the same, though the manner of their application may be to some degree modified. It would be outside the limits of what is here attempted to enter into the contested merits of attack and defence, or to more than indicate in a general way the principles governing either. As an attack has usually to deal with an opponent in a selected position of defence, it will be convenient to first examine the conditions of the latter.

A *defensive* attitude should be only assumed with the intention of converting it into an *offensive* one during the course of the action. To remain permanently on the defensive would at best prevent the enemy from gaining a victory, but would never secure it for the defenders. This does not presume a case where great disparity of numbers exists, one with which we are not now concerned. It enters therefore into the essence of all defensive dispositions that the fight be changed at some period of its course into a vigorous offensive. The early part should therefore be regarded as a preparation for what is to follow, towards the production of which its general action should tend.

Though a defensive attitude, deliberately adopted from the outset, does not always imply inferiority, it may still be assumed that it indicates no consciousness of decided superiority. But to

subsequently quit the line of defence for a vigorous offensive, success would require that superiority or its elements have been by that time established. This would be arrived at by exhausting the enemy in the stubbornness of the resistance, and preserving sufficiently fresh a portion of the defensive force with which then to overwhelm him. The first condition is attained by occupying ground that in the relative advantage it afforded the defenders would neutralise their assumed inferiority; the second by retaining out of the fighting line the largest possible proportion of the force for counter attack.

The requirements of a good position are that—

Its length of front be suitable to the numbers available for holding it.

Its depth admit of free movement within it.

Its flanks, if possible, consist of natural obstacles.

A general command over the surrounding country.

An extensive range of fire to the front and flanks.

Good positions for artillery.

Cover for all arms.

Good lateral communications.

Ample means of retreat.

It would be impossible to find a position possessing all these advantages, but that is best which combines most.

No ground should exist in front which would screen the enemy's movements or allow him to mass large numbers in concealment. Obstacles that impede the attacking side only are of use, but when they would also hamper the movements of the defenders in offensive action they are a disadvantage. For the loss here would probably exceed the gain.

The line of retreat is best secured when it runs perpendicular to the general front about its centre, and least so when it lies in prolongation of the front. For in the latter case a success of the enemy on the flank from which it leads would immediately give him possession of it.

For the defence of a position it is not necessary or even advantageous that troops be formed in one continued line. In all positions there are certain localities whose capture would afford special advantages to the assailants. As it is towards gaining possession of such points that the efforts of the attack would be directed, so it is on holding them that the energies of the defence should be concentrated. When these points are numerous along the front, their intervals need only be (comparatively) weakly guarded, for an enemy could not venture to advance where his flanks and rear would be so seriously laid open.

In treating of infantry, the disposition laid down for the *first line* provides at the outset for a very vigorous resistance. But this line comprises only a fraction of the whole force. It is uncertain at first where the enemy will strike, and it is important that he be opposed in force where he does strike. For holding fast to the position is the first condition of success. A second, and usually a third line, would therefore be formed for the support of the first.

But counter attack enters so essentially into the principles of defence, that the troops not engaged in the first line should be disposed for ultimate action with this view. Flank attacks have also to be specially guarded against. Hence the second line would usually be kept concentrated at points of the position where direct support in front may be most required, a counter attack best delivered, and the flanks most secured.

All parts of a force not actually engaged in the fighting line are practically for the time being a reserve. But while local reserves would necessarily be at the disposal of the commander of the troops with which they were placed to act, yet a special reserve would be always retained at the immediate service of the commander of the whole. Its actual position would be determined by the general requirements on the spot. It should be kept sheltered from the enemy's fire, be within reach of supporting points most threatened, or where a success of the enemy

would be attended with most danger, and should, as a rule, cover the line of retreat.

This method of defence entails a much greater depth of occupation than had up to recent wars been adopted. But the system of attack imposed by the present weapons of defence necessitates it. It is no longer opposition of the bayonet to the bayonet, rapidly brought about, but rather the prolonged drain produced by fire-action requiring constant replenishment, that has to be provided for. Besides, the necessity imposed on the attack of extending round the flanks makes a special provision against movements of this kind necessary; and both requirements would seem to be best fulfilled by echeloning the troops of the defence on a considerable depth of position.

As the enemy would make his principal efforts against certain localities, while he only makes feints against others, it concerns the commander of the defensive force to distinguish the true attack from the false one. For it is in holding the latter in check with a small part of his force, while he concentrates in superior numbers against the other, that he must expect success. Vigorous and well-directed counter attacks are the life of the defence; they both aid best to defeat the enemy's efforts to gain the position, and exhaust his forces; for the loss incurred in falling back from an attack repulsed is usually the heaviest. These counter strokes should be short and rapid, and much pursuit avoided until the enemy's force is considerably broken, and when that moment arrives, a general and well-sustained advance should seek to complete his defeat.

As the manner of the defence is so entirely dependent on that of the attack, and as the true direction of the latter can only be ascertained with certainty during the development of the fight, it should be a principle of the commander, after providing for the general defence of the front line, to retain the remainder of his force in a great degree concentrated, until the true direction of the attack has been disclosed.

Some advantages on the side of the defence are—

That the defender can select his own fighting ground, subject always to the restriction of strategical considerations.

That, knowing the ground, he can organise from the outset a system of defence best suited to the means at his disposal.

That he can supplement numbers by the judicious use of entrenchments.

That his troops may fight under cover, while those of the assailant must be more or less exposed in their advance.

ATTACK.

If one body of troops attack another, of equal or nearly equal strength, along its front at the same time and in the same force throughout, it is plain that the result is little dependent on the skill or combinations of the commander of the attacking force. If the defenders are well posted they should beat off such an attack; if they do not, they should at least make it very costly. In most cases no worse results would ensue than their being driven from the position. But a victory, to be decisive, should attain something more. If it did not utterly disorganise the enemy, it should inflict such a blow as would prevent him at least from fighting again for some time to come. Therefore all dispositions for attack should have in view results that in case of success would be most decisive.

The secret of success in battle consists in acting with superior force at decisive points. But if the opposing forces are nearly equal, superiority at one point will entail comparative weakness at another. And supposing the defender to be equally strong throughout, then the weak part of the attacking force would be at a disadvantage. If the assailant were, under these conditions, to attack with his whole force at once, the reinforced part would probably be victorious, but the other would with equal probability be defeated. But if he contrived to engage the strong part only, while with the remainder he manœuvred so as to make the enemy believe himself also seriously threa-

tened on that side, he would defeat his opponent at one point without being himself defeated at the other. The part hitherto held back now combining its action with that successful, should make the enemy's partial defeat universal. These in a few words are the principles on which all attacks should be based, varied according to circumstances in their application.

But two conditions here involved must be rigorously complied with : the superiority at the point of attack should be very decided ; the defeat of the weakened part should be carefully guarded against. This will be attained by employing at the decisive point every man not required elsewhere, and only so far engaging the remainder as not to endanger their getting seriously compromised.

But the secondary attack must have all the appearance of reality if it is to effect its purpose. For it will only impose on the enemy inasmuch as he believes it to be genuine. For if he finds himself attacked in force at one point and but feebly at another, he will quickly realise what is being attempted and withdraw part of his troops from the one to reinforce the other. But if from appearances at the outset he is likely to be attacked in force at different points, he will usually remain some time in uncertainty as to where the force of the blow is meant to fall. And as long as this uncertainty lasts he cannot denude parts of his line to reinforce others.

The enemy's dispositions and the character of the ground must indicate the points of attack where success is to be looked for. It may be his centre, or it may be one of his wings, or it may be both wings, the centre being only threatened.

What constitutes a decisive point must depend on the particular situation. It may be a commanding part of the enemy's position, whose capture would materially weaken the rest of the defence. Or it may be a point where if allowed to establish himself the assailant would dangerously menace the enemy's line of retreat.

But there are often secondary points in a battle-field whose

possession becomes of extreme importance from the pivot they afford for prosecuting the attack, or, in case of need, for acting on the defensive. Such for instance were the villages of Vionville and Flavigny at the battle of Mars la Tour.

For tactical combinations in which skill replaced numbers, we have to go back to the wars of Frederick and the first Empire. Frederick gained battles with inferior numbers by the skilful dispositions through which he obtained, notwithstanding, superiority at decisive points. Napoleon always sought to meet his opponents on at least equal terms as regards numbers, and then attain superiority by more masterly combinations.

In recent warfare we see little of this. Troops are pushed forward at all points, and no seeming effort made to strengthen important attacks at the expense of minor ones. Whether this is a necessary consequence of the increased destructive power of the present fire-arms remains as yet undetermined.

But the same means of developing local superiority no longer exists as of old. It was then arrived at mainly by the physical force of numbers, applied in columns or successive lines of attack. Now it can only be attained by the force of fire applied on an infinitely more extended and shallower formation. Hence the development of superiority by fire requires a much wider front for action. One method was the accumulation of force by the concentration of numbers; the other the accumulation of fire by their extension. Thus the system of breaking down the enemy's resistance by penetration has given way to that of envelopment. Moreover, the great increase in strength obtained by the defence makes front or central attacks now so costly that success must be looked for in gaining the enemy's flanks. So that when a superiority of force is used in attack, its most effective application will consist in a vigorous demonstration that will hold the enemy fast in front while the weight of the attack is being pressed against his flanks. And when great superiority does not exist, then the effort must be made against

one flank only, and that selected where success would be most decisive.

The strength bestowed on the defence by the power of modern fire-arms is equally serviceable to that part of the attack employed for demonstration against the enemy's front. For were the latter to attempt a counter-stroke while the main effort was being made against its flanks, the force opposed to it would still possess considerable power of resistance. This freedom of reducing the strength of the front (within limits) to reinforce the flank attack cannot be neglected when the forces are nearly equal. And when great superiority exists the movement will naturally take the form of envelopment, as the only way in which superiority can now be applied. Worth is a good instance of a battle of the latter kind, as also of the difficulties and losses attending front attacks.

When treating of infantry we saw how the first line of an attacking force would be disposed. But the possible repulse of that line has to be provided for, as also the eventual support which even if successful its exhaustion will necessitate. Hence troops employed for the attack of decisive points must be disposed on a very deep formation. But this depth is not so necessary for that part of the force used elsewhere to simply retain the enemy opposed to it in his position. For as its business is rather to alarm than to press its attack to an issue, the greater the force it displays in the front line, the more effectively will it attain its object of *threatening*; and should the enemy venture on a counter attack the front line cannot be too strong to oppose it.

A certain proportion of the force should be always retained as a reserve at the immediate disposal of the commander of the whole. Its uses are to decide a doubtful combat by a vigorous blow at a timely moment, or to be available for parrying such a blow if attempted by the enemy. Its intervention will be most effective when exhaustion has begun to set in on both sides. The advent of fresh troops at this period should have a decisive effect, both from the material aid

it affords to one side and the dispiriting influence it must have on the other. But a reserve should never be used in the early part of an action unless the remainder of the force engaged is clearly overmatched and unequal to effecting what is required of it. In this case the situation of the latter must if unsupported get gradually worse, so that if success is to be achieved it must be by a vigorous effort made before this force is overwhelmed. Moreover, if the reserve were kept back until the part engaged was crushed it would then have to enter the action when the latter was past supporting it, and having to sustain alone the whole brunt of the fight it would be itself in turn defeated. This would be simply to get beaten in detail.

Though a reserve is only provided at the beginning of an action with a view to its *use* at some subsequent part of it, yet it is always essential to husband it to the utmost. For when the disparity in numbers has not been very great, decisive results have as a rule been arrived at in battle by the judicious use of reserves.

When the opposing forces are considerable it is usually difficult at the beginning of an action to ascertain with accuracy the strength and dispositions of the enemy. Yet it is only as these become developed during the fight that the commander can determine the points against which his principal efforts should be directed. But before seriously committing the bulk of his force to an engagement, he should have a clear conception of what particular results he aims at, and decide in his own mind the general mode of action by which he means to attain them. A plan once entered on should be vigorously pursued, unless utterly bad, as an indifferent plan conducted with resolution has more chance of success than an attempt later on to recommence on a better one.

When the final attack has been successful and the position gained, the front line should be quickly re-formed and order as far as possible restored. For by this time the leading troops will have lost all regular formation, and a further advance in this

state would be without guidance or control. Moreover, a counter attack is to be expected at this period in a well conducted defence, and hence the necessity of at once taking measures to secure what has been won. Having cleared the enemy from the whole of the position, the first line has for the moment done its part, and it is for the troops in rear to pass now into the front line and make the success decisive.

In preparing and carrying out an attack, special points to be regarded are—

A distinct end in view in all dispositions for the fight.

The most vulnerable points, or those whose possession promises decisive results, to be selected for attack.

An accumulation of artillery fire on points so selected.

All attacks once entered on to be vigorously carried out, and with adequate forces.

False attack on other points to distract the enemy's attention.

Cavalry and artillery at hand to follow up a success.

Careful provision and disposition of reserves.

Secrecy to the last as to object aimed at.

Some of the advantages on the side of the attack are—

That the assailant can select his point of attack.

That he can keep his opponent ignorant of it until the moment for action arrives.

That he can compel his opponent to conform to his movements.

That no position being perfect throughout, weak points in the defence are sure to offer themselves and only require being recognised.

**EXAMPLE OF AN ATTACK IN FRONT SUPPORTED BY AN
ATTACK IN FLANK**

Colombey Heights, August 14, 1870. See PLAN XIII.

On August 14 the French 3rd Corps occupied the following positions to the east of Metz.

1st Division (Montaudon) at Grigy.
2nd " (Castagny) " Colombey.
3rd " (Metmann) " Colombey, Bellecroix.
4th " (Aymard) " Bellecroix, Nouilly.

The Prussian viiith Corps was disposed as follows:—

xiiiith Division { xxvith Brigade at Laquenexy (advanced guard).
 " " " Pange.
xivth Division { xxviiiith Brigade } Domangeville.
 " " " "

The French movements on the morning of the 14th leading to suppose that they were abandoning their position and retiring on Metz, the commander of the xxvith Prussian Brigade determined on his own responsibility to attack that part of the enemy opposed to him.

His force consisted of:

	7th Rifle battalion	} xxvith Brigade.
15th Regiment	{ 1st battalion	
	{ 2nd " "	
	{ 3rd " "	
55th Regiment	{ 1st battalion	
	{ 2nd " "	
	{ 3rd " "	
8th Hussars		
5th Light Battery		
6th " "		

The object of the Prussian commander, General v. d. Goltz, was to get possession of the heights of Colombey. He advanced from Laquenexy to attack in the following order.

15th Regiment { 1st battalion } by Marsilly on Chateau Aubigny.
 " " " }
6th Light Battery

7th Rifle Battalion	by Ars Lauquenexy on Colombey.
8th Hussars	} Covered movement on right flank, and later on formed escort to ar- tillery.
Fusilier battalion 15th Regt.	
55th Regiment (3 battalions)	} by Marsilly in second line.
5th Light Battery	

The enemy's advanced post is driven out of Chateau Aubigny by the 1st battalion 15th Regiment.

5th Light Battery comes into action north of Marsilly against retreating enemy.

The movement continues.

	7th Rifle Battalion	Ars Lauquenexy to Colom- bey.
15th Regiment	1st battalion	{ 4th company
		{ 3rd " }
		{ 2nd " }
	2nd battalion	{ 1st " }
		{ 6th " }
		{ 7th " }
	{ 8th " }	{ Followed Rifle battalion on left.
6th Light Battery	{ Into action north of Aubigny to support attacking infantry.	

	7th Rifle Battalion	} Carried heights south of Colombey, and subsequently farm buildings at Colom- bey. A counter attack by the French vigorously repulsed, but on the other hand no further progress could be made by Prussians.
15th Regiment	{ 4th company	
	{ 5th " }	
	{ 8th " }	

The companies on the right moved against La Planchette, but could make no way on the western side of the brook, as the French occupied the heights west and north of Colombey as far as Saarbrucken road in great force.

The two batteries in action south-west of Coincy.

The Prussians are now engaged at all points in a vigorous action against superior forces. The second line is moved forward to support the first.

55th Regiment, Fusilier Battalion	{ By Coincy on La Planchette to meet a reported turning movement of enemy.
-----------------------------------	--

15th Regiment	{	9th company	{	Along the hollow between Planchette and Colombey, to reinforce three companies already engaged there (4, 6, and 7), and attack heights. This attack completely failed.	
		10th "			
		11th "			
		12th "			In park at Colombey.
55th Regiment	{	1st battalion	{	1st company	To bridge at Colombey
		4th "		4th "	
		2nd "		2nd "	
		3rd "	3rd "	To heights north of it.	
1md battalion	{	Occupies park and farm buildings at Colombey, further to south.			

The whole of xxvth Brigade is now in action.

The Prussian official account thus sums up the result of the fighting at this time : ' A determined and bloody action had been raging for an hour on the western slope of the brook. Although the Prussian detachments under General v. d. Goltz had at present succeeded in maintaining the heights at Colombey, which they had taken at the first rush, yet on the other hand the advance of the right wing south of the Saarbrucken high road had encountered throughout an invincible resistance. The French held especially a little fir wood on the Colombey-Bellecroix road. Their main body was further to the rear, between Colombey and Borny, whither constant reinforcements were seen to arrive.'

But Prussian reinforcements now began to come up also, in the remainder of the XIIIth Division.

xxvth Brigade	{	13th Regiment (3 battalions)	}	Hitherto about Pange.
		73rd " (2 ")		
		5th heavy Battery		
		6th " "		

The two heavy batteries moved up at a trot in advance of infantry.

The 5th heavy battery, on arriving, is ordered by General v. d. Goltz to cross valley at Colombey and support troops engaged in Park against a superior hostile force. It came into action at eastern corner of Park within 900 yards of enemy's infantry, mitrailleuses, and a battery firing shrapnel. After firing with difficulty 28 shells, it had to be drawn out of action by infantry, totally shattered, under cover of the Colombey farm buildings. It was eventually retired, and got into position alongside two light batteries on Coincy road.

The 6th heavy battery came into action south-west of Montoy.

'Between Colombey and Saarbrucken high road all attempts to gain

ground on the left bank of the brook had failed, as the enemy succeeded in maintaining the fir copse on the Colombey Bellecroix road.'

The xxxvth Brigade { 13th Regiment (3 battalions) } now commenced to
 { 73rd " (2 ") } arrive.

The 1st battalion 13th Regiment (first to arrive) is pushed forward between Coincy and Saarbrucken road, to join companies of 15th Regiment already engaged there. This battalion made little way in its attempt to ascend heights on left bank, and lost its commander and four company leaders.

1st battalion 73rd follows in same direction, and, supported by companies of 13th and 15th, already engaged, drives enemy back to poplar avenue from Bellecroix to Colombey.

The fir copse near this road, which had hitherto kept in check the companies in Colombey Park, is next carried. But the enemy at once brings a heavy fire to bear on this wood from three sides, and the Prussians are again driven out with great loss. In their retreat they carried back the 2nd battalion 73rd, advancing in support.

These repulsed troops are now rallied in the wood, on the brook and in the valley of Colombey, by General v. Osten Sacken, commanding the brigade, who had hitherto led them on.

The Fusilier battalion 13th } now come fresh into action at this point.
 " 2nd " 73rd }
 " 2nd " 13th Approaching from Coincy.

General v. Osten Sacken renews attack.

The 2nd battalion 73rd { Against north side of fir copse and poplar
 avenue adjoining. Supported on both
 sides by detachments previously repulsed.

" Fusilier " 13th { 9th company { holds wood on Colombey
 brook.
 10th " }
 11th " } Against fir copse.
 12th " }

" 2nd " 13th In rear of centre of line of battle.

This attack succeeded. The position on the Colombey-Bellecroix road which had been maintained by the adversary with the greatest stubbornness, was captured. The French retired on Borny. The Prussian troops sought in vain to advance onward from this position; their forward movements were repelled by the enemy. Equally fruitless were the French attempts to regain lost ground. On the extreme left wing the 7th Rifle battalion and detachments of 15th were holding

the heights of Colombey and ground to south, which they had captured two hours previously, but beyond which they could not advance. The Rifles formed a sort of semicircle round the north-east corner of the Borny wood, from which they were separated by perfectly open ground.

At this point the Prussians had both brigades of the XIIIth Division engaged, but had made little way in their front attack.

The other Division (XIVth) of VIIIth Corps now arrives on the ground.

It is moved :

XIVth Division		{	27th brigade to Marsilly, as general reserve to corps.	
		{	28th " to south-west of Colombey.	
XXVIIIth Brigade.	53rd Regiment	{	2nd battalion {	Joined rifle battalion on left, and opened fire on edge of Borny wood.
			1st " {	To La Grange aux Bois, to outflank adversary's right.
	77th Regiment	{	1st " {	To continue the outflanking movement to Grigy.
			2nd (2/4) " {	
	1st Light battery	{	Into action at northernmost angle of Ars Laguenexy wood. (Does very effective service at this point.)	
The 7th Rifles	2nd battalion 53rd	{	Advance against north-east corner of Borny copse, and make a concentric attack on it, which succeeds.	

Part of the flanking detachments have already come into action against south of this wood.



This attempt to act against the enemy's flank now received important support from the head of the XVIIth Division, advancing by Mercy le Haut. This comprised

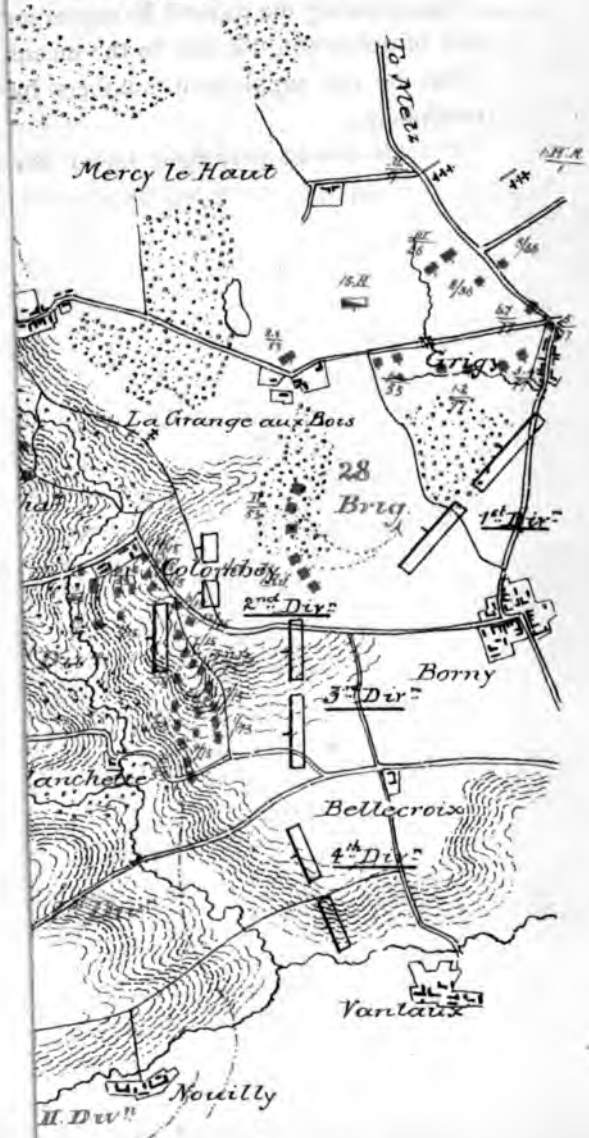
2 squadrons 6th Dragoons.

36th { 2nd battalion
3rd " "
2nd Light Battery.

The battery and a squadron as escort was pushed forward in advance and came into action at the angle formed by road leading to chateau, near Mercy le Haut, and opened fire on French at Grigy. This was

on Colombey
17th Aug^r 1870

rench 
mans 



Scale

500 1000 2000 Yds.





supported later on by the horse artillery battery of the 1st Cavalry Division, which moved up to its left.

Six companies, 36th. To Grigy, in support of xxviiith Brigade.

Two " " . To hold Peltre.

The French evacuate Grigy and the southern part of the Borny wood.

The 53rd and Rifles penetrate by the north-east angle.

The 2nd heavy battery had hastened forward in front of main body of xviiith Division, and came into action between the other two. The enemy now gave way at all points from Grigy and the Borny wood, and night coming on put an end to the action.

*EXAMPLE OF AN ATTACK IN FRONT COMBINED WITH AN
ATTACK ON BOTH FLANKS.*

Burkersdorf, June 28, 1866. See PLAN XIV.

In the action of Trautenau, on June 27, 1866, the Prussian 1st Corps of the 111th Army on debouching from the defile was repulsed by the 10th Austrian Corps and forced back over the frontier.

The Austrian Corps took up a position for the night in the neighbourhood of Trautenau—its direct line of communication with the main army being by Prausnitz-Kaile on Josephstadt.

The commander of the xth Corps was informed from Head Quarters, on this night, that Prausnitz-Kaile was held by a strong Austrian detachment.

To open the Trautenau defile and disengage the 1st Corps, the whole of the Prussian Guard Corps was ordered, on the night of the 27th, to move the following morning from Eipel on Prausnitz-Kaile.

About 7.30 on the morning of the 28th, the commander of the Austrian 10th Corps was ordered to fall back from the neighbourhood of Trautenau and take up a position at Prausnitz-Kaile.

He at once moved his Corps in the following order—

Along the high road from Trautenau to Prausnitz-Kaile.

The Train.

The Reserve Artillery of the Corps.

Knebel's Brigade.

Wimpffen's Brigade.

Mondel's Brigade (to form rear-guard).

From Alt-Rognitz to Staudenz, to cover the left flank—

The Windischgratz Dragoons.

No. 7 Battery.

The remaining brigade (Grevicic) to move from its position on the Katzauer-Berg to Raatsch. If the enemy advanced from Eipel this brigade was to act against his right flank. If not it was to halt at Raatsch and form the advanced guard of the 10th Corps in its new position.

These dispositions were all made on the supposition that Prausnitz-Kaile was being strongly held by an Austrian force.

Arriving at Burkersdorf with the head of the column, the commander of the 10th Corps (General Gablenz) learned from his flanking party that Prussian troops were advancing on his left, not a mile distant. These were soon found to belong to the advanced guard of the 1st Division of the Prussian Guard.

General Gablenz sent word to the Train to leave the high road and move across country on Altenbuck—the companies escorting the Train to occupy the woods south of Burkersdorf.

The leading battery, No 9, was moved on to the high ground south-west of Burkersdorf, and opened fire on the Prussian advanced guard, which had already reached Staudenz. Subsequently three more batteries, 3, 5, and 7, formed up on the heights to the north of Burkersdorf, and two more, 8 and 10, on the eastern slope of the Granner Koppe.

Knebel's Brigade on coming up was disposed as follows :

1st battalion 1st Regiment in woods between Burkersdorf and Staudenz.

2nd battalion 1st Regiment on right flank of batteries 3, 5, and 7.

{ 3rd battalion 1st Regiment } in wood on left of these batteries.

{ 3rd „ 3rd „ } in reserve on left.

1st „ 3rd „ on the right of No. 9 battery.

Windischgratz Dragoons (which had rejoined the column) to the west of Burkersdorf.

The Prussian advanced guard halted under cover at Staudenz, having detached two companies to Marschau to cover its left flank.

It consisted of—

4 Battalions.

1 Squadron.

1 Battery.

$\frac{1}{2}$ Battalion Pioneers.

Its battery came into action on the high ground north-west of the village, and was subsequently supported by another battery from the main body of the division, which took post on the north-east of the village.

Under cover of these batteries, three battalions of the advanced guard moved against the patches of wood to the east of Burkersdorf about 10 o'clock.

The undulating nature of the ground, and the standing corn in parts of it, greatly facilitated their advance, and in spite of a heavy fire from the Austrian Artillery the Prussians quickly established themselves in the woods. Lining the edge nearest Burkersdorf, the advanced guard awaited reinforcements, keeping up a skirmishing fire against the enemy.

At the same time two companies had established themselves in a wood close to an old stone quarry, to the north-west of Burkersdorf (Alter St. B), to which point the batteries now moved forward.

The Cavalry were kept under cover in rear of the left wing.

General Gablenz hoped to keep the enemy in check with Knebel's Brigade long enough to enable the two other brigades (Wimpffen and Mondel) to file past in rear on Prausnitz-Kaile—believing Prausnitz-Kaile to be still held in force by the Austrians.

But word was brought to him about 10 o'clock that the enemy occupied Prausnitz-Kaile. He thus suddenly and unexpectedly found himself cut off from Josephstadt.

He immediately issued orders to the different brigade-commanders to change their line of march and move on Pilnikau.

To free the other brigades and enable them to carry out this movement without being attacked on the march, it now became necessary to make head against the Prussians with Knebel's Brigade to the utmost. On this brigade then devolved the duties of a retarding force—otherwise of a rearguard.

In the meantime the fire of the Prussian skirmishers in the woods east of Burkersdorf had obliged the Austrian battery No. 7 to fall back to the Granner Koppe, where it took post on the right of No 10.

The main body of the 1st Division of the Prussian Guard reached Staudenz about 11 o'clock.

It consisted of—

7½ battalions.

3 squadrons.

3 batteries.

A battery was sent forward (to Alter St. B) to relieve that belonging

to the advanced guard, which had heavily suffered, while the Infantry **moved** up into line with the advanced guard.

The following dispositions were made for attacking the enemy's **position.**

7 companies of the advanced guard to move directly against the village—

3 on the right.

2 on the centre.

2 on the left.

3 battalions against the wood south of Burkersdorf, followed by a **fourth** battalion in reserve.

2 battalions on the right to the north of Burkersdorf.

The Austrians had to fall back before this attack.

The two batteries (3 and 5) north-east of Burkersdorf retired over the Granner Koppe on Altenbuck.

The battalions on their left withdrew across the high road and took post under cover in the wood north of the Granner Koppe.

The 2nd battalion 1st Regiment occupied Burkersdorf with four companies, and posted the two other companies in rear on the road to Altenbuck.

The 1st battalion 1st Regiment when driven from the wood to the east of Burkersdorf had fallen back towards Soor.

The four Austrian batteries in second line held their ground until the Prussians gained possession of the village of Burkersdorf, and the high ground to the north of it. They then retired, two (8th and 10th) direct on Altenbuck—the two others (7th and 9th) on same point by Hainweise Farm.

The withdrawal of these batteries was covered by the 1st battalion 3rd Regiment and the Windischgratz Dragoons.

The flanking movement by the four battalions on the Prussian left was now making itself felt, and to check pursuit the Austrian battery No. 7 came again into action on the high ground south-east of the Hainweise Farm. It was supported further to the rear towards Ober Altenbuck by three guns belonging to battery No. 10. The farm buildings and the edge of the adjoining wood were held by some Austrian Infantry, and the Windischgratz Dragoons were close in support.

Against these guns the Prussians brought forward a battery to the south-west of Burkersdorf, which drew the fire of the Austrians on themselves.

In the meantime the Prussian Infantry pushed on towards the Hainweise Farm, and getting close to the Austrian batteries obliged them to retreat precipitately, with the loss of two guns.

The flanking movement of the Prussian right was equally successful. One of the two battalions sent in that direction moved through the wood to the north of Burkersdorf, and dislodged the Austrian detachments holding the Granner Koppe.

The brigade now withdrew on Altenbuck—the Prussians not pursuing beyond the Hainweise Farm.

Austrian force engaged.

6 Battalions of Infantry.

1 Regiment of Cavalry.

48 Guns.

Prussian force.

11½ Battalions.

4 Squadrons.

24 Guns.

½ Battalion Pioneers.

Remarks.

When General Gablenz suddenly found the enemy advancing against the flank of his line of march, his first thought was to clear the road of the baggage and train moving at the head of his column. He then got the leading battery into action, and threw the few infantry at hand into the wood south of Burkersdorf, to cover this battery and check the enemy's advance at that point.

His intention was to oppose the enemy with the infantry of the leading (Knebel's) brigade only, the reserve artillery, and the cavalry, while the two other infantry brigades continued their march on Prausnitz-Kaile.

His dispositions must accordingly be examined with these conditions clearly in view.

The force at his disposal for action thus consisted of

{	6 Battalions.
	6 Batteries.
	1 regiment of Cavalry (minus detachments
	amounting to about 1 squadron).

The position for his front line of guns was unmistakable, the batteries, 7, 3, 5, sweeping most of the ground between Staudenz and Burkersdorf. The battery on the right (No. 9) was also advantageously posted, and thus a powerful artillery fire was established against a front attack on Burkersdorf.

Close to the left of batteries 7, 3, 5, the ground falls rather abruptly to the north-east, and a thickly wooded slope extends considerably

to the front, winding round in the direction of Staudenz. Rising again abruptly on the further side, and still thickly wooded, the ground on the left front of these batteries formed a ravine, affording good cover to an enemy advancing in this direction.

It thus became essential to provide for the safety of the guns on their left flank. Accordingly two battalions were pushed into the woods, and a third posted in reserve on a level with the guns.

The Austrian commander considered it advisable to further support these batteries with another battalion on their right, on a level with the village of Burkersdorf: and, as another battalion was detached to No. 9 battery, on the extreme right, there only remained one battalion to oppose an attack against the centre.

This battalion was sent to occupy the plantations east of Burkersdorf.

These dispositions appear open to some objections.

The Austrian corps was seeking to reach Prausnitz-Kaile. It was of extreme importance to it to get there, as through it lay the direct line of junction with the main army. To be driven from this line was to be temporarily, at least, severed from the latter. The Austrian commander, alive to this, meant to continue his march with the rest of the corps while he checked the enemy's further advance with one brigade; for he was at this time ignorant that Prausnitz-Kaile was held by the enemy. But the remaining brigades were still in rear on the road to the left of the position he assumed—hence it would appear of vital importance to provide for the safety of his right flank, and so prevent the enemy from interposing between his corps and the point he was making for. Yet the right flank was practically left undefended, for the single battalion on that side was disposed rather for the protection of the battery (No. 9) than to act against a turning movement.

On the other hand, though the importance of securing the three batteries on the left could not be overlooked, still, as long as their safety was provided for, a success of the enemy on that flank would be attended with no more injurious results than the evacuation of the position. That is, assuming the two other brigades to have already, as intended, filed past in rear of the one in action. For had these brigades not filed past they would be on the spot to meet the enemy's flank attack in this very direction.

Hence it suggests itself that two at least of the three battalions posted on the left would have been more advantageously moved to the right; and if more than one battalion was deemed requisite for the safety of the guns, then what was required in addition should have been called up from one of the other brigades close at hand. Otherwise a

point of primary importance would be left practically undefended, and half of the whole force collected where the results to be attained were comparatively insignificant.

The plantations east of Burkersdorf afforded excellent shelter for infantry, and a good view of the ground towards Staudenz. Still they were only occupied by one battalion. This was totally inadequate to the extent of front to be defended, but the Austrian commander probably relied on the powerful artillery fire with which he swept the ground in front of the plantations. Still the battalion (2/1) on the right of the three batteries (5, 3, 7) would no less have effected its purpose of covering them if pushed into the plantation in front, for if subsequently driven out again it could still fall back to the position it was occupying; and undoubtedly another battalion in the plantations must have prevented the Prussians from occupying them so easily.

Besides the advantages these plantations offered for defence, it was of importance to keep the enemy out of them. For, as we have seen, once in his possession they provided a fresh starting point for a further attack on Burkersdorf, and the fire of his infantry quickly obliged the nearest Austrian battery to withdraw out of action.

Had therefore two of the battalions on the left been moved to the right instead—one into the plantations and one in reserve—had the battalion in the centre (2/1) been also pushed forward, then there would have been three battalions in a sheltered position to oppose a direct attack of the enemy, two battalions in reserve on the right, and one battalion to secure the guns from the coup de main on the left.

The commander of 1st Division of Prussian Guard having learned from his reconnoitring parties that the Austrian 10th Corps was moving along the high road from Trautenau to Prausnitz-Kaile, and relying to a great extent on the co-operation of the 1st Corps by a fresh advance from Trautenau, pushed forward to strike the left flank of the Austrian column while actually en route. The orders to the commander of the advanced guard were, therefore, to pass through Staudenz and move against the high road on which the Austrians were marching. This accounts for the somewhat precipitate attack of the three battalions of the advanced guard on the woods to the east of Burkersdorf. But the Prussian commander not only saw the advantage of cutting the Austrians from Prausnitz-Kaile, but also of forcing them to fight a battle in a position where they would have to do with the whole of the Prussian Guard Corps in front, while the 1st Prussian Corps, now expected to debouch from Trautenau, would fall on their left flank.¹ Had not the

¹ The Prussian commander was at this time unaware that the 1st Prussian Corps had withdrawn across the frontier the previous night after its defeat.

advantages that appeared to offer of forcing the Austrians to an engagement at Burkersdorf been so great, the attack of the advanced guard, in the first instance, must be looked upon as somewhat rash. For an advanced guard should be careful about attacking where it may suffer a serious repulse before it can be reinforced, or where it may be necessary to engage the main body *volens volens* to extricate it.

In carrying out this attack, we see that the battery of the advanced guard opened the action on the Prussian side, and that it was quickly reinforced by another battery from the main body.

The strength of the advanced guard was $\left\{ \begin{array}{l} 4 \text{ Battalions.} \\ 1 \text{ Squadron.} \\ 1 \text{ Battery.} \end{array} \right.$

Half a battalion had been already detached to Marschau.

Of the remainder, three battalions were sent direct against the plantations, and two companies round by the right flank, to secure a more forward position for the guns. It was clear that the force was too small to attempt a flanking movement, and that the possession of the plantations directly in front would best prepare the subsequent action of the main body.

The commander of the advanced guard engaged the whole of his force at once, and kept no reserve. This he was justified in doing, as the main body close in rear was actually a reserve, and he required the whole of the force at his disposal to attain what was of great moment, viz., the possession of the plantations.

Though no opportunity offered for the use of his cavalry during the attack, still he drew them forward in rear of his left flank, as in case of a repulse they would be at hand to check pursuit.

Having gained possession of the plantations, he very properly awaited reinforcements.

The dispositions of the main body of the Division for attack suggest some points to be noted. The force at this moment available to the Prussian commander was

$\left\{ \begin{array}{l} 10\frac{3}{4} \text{ Battalions.} \\ 4 \text{ Squadrons.} \\ 4 \text{ Batteries.} \end{array} \right.$

He first deemed it necessary to withdraw the battery of the advanced guard and replace it by another. Thus two batteries only out of the four were in action.

This must be regarded as an error. Artillery, once engaged, should remain in action as long as its guns are not dismounted. If it be withdrawn it should be only temporarily, to refit, in anticipation of a pro-

longed engagement—not much to be apprehended in this case. Retaining, in addition, another battery out of action, is even more unaccountable, considering the powerful artillery force the enemy had brought forward. To facilitate the attack of the infantry, every available gun was required. Keeping back guns in reserve, while their want is being badly felt in front, can seldom be justified; and here it was unnecessary, as the remainder of the Corps was following close at hand.

In disposing his infantry the Prussian commander took advantage of his numerical superiority to act against the enemy's flanks. Further, he moved in greatest force against that flank where he deemed a blow would be most telling, and also because he was bound to anticipate that at such a point he would encounter most resistance. Thus he directs more than a third of his whole force to turn the right flank of the Austrians, for a success here must necessarily sever them from Konigenhof. Against the centre he only employed 7 companies out of the three battalions established in the plantations, the remainder moving round to their left as a further reinforcement to the left flanking detachment. Against the enemy's left wing he sent $2\frac{1}{2}$ battalions.

These dispositions and their success further prove what has been asserted to be defective on the Austrian side. For the Prussian commander not only attached great importance to forcing the Austrian right, but clearly anticipated considerable opposition in doing so. Also the previous occupation of the plantations by the advanced guard rendered this turning movement feasible.

Finally, the turning of the Austrian right, coupled with the attack on its centre, entailed the retreat of the left, though the three battalions retained there had only to do with one of the two Prussian battalions sent against them, the other having diverged and become engaged in another direction.

It is to be noted that the flanking attacks of the Prussians were strengthened at the expense of the centre, reduced to 7 companies. This would have been too weak a force had the success of the whole depended on the centre of itself forcing back the force opposed to it. But this was not the object. What was required of the centre was to keep the enemy occupied in front while the flanking movement was being developed, and then to act in conjunction with the latter. This it was strong enough to do, and also, from the cover afforded by the plantations, to make head against a counter attack if attempted by the enemy.

It is again to be noted here that the commander of the Division engaged his whole force at once, retaining none out of action as a reserve.

But in this instance also the case justified his doing so. For the head of the 2nd Division of the Guard, following towards Staudenz, was at this time not more than a mile-and-a-half distant, and in this force a reserve for the troops engaged was actually provided.

It has been attempted in the above to treat the action of the Austrian force engaged about Burkersdorf as an independent incident of the fighting of the 10th Corps on June 28. Thus the comments on the dispositions made have reference solely to their merits as locally considered. This contraction of the subject was necessary, as a digression into the movements of the remainder of the corps would take us outside our limits—the tactical dispositions of a small force of all arms, for attack and defence. However, this isolated treatment of part of a force not really disconnected with the rest, is inseparable from the disadvantage of excluding considerations that may account for much that is objected to. Yet the objections must still hold good if only viewed with reference to what is happening on the spot. And it is by regarding these events in such a light that tactical instruction is in this case afforded us.





CHAPTER XIV.

REARGUARDS.

REARGUARDS are of two kinds ; to a force advancing against an enemy, to a force retreating before an enemy.

The duties of the first are mainly confined to measures of police against stragglers and marauders, and to guarding the baggage and rear of the column from the attacks of disaffected natives and the enemy's partisans. The duties of the second are of a much more difficult and important nature, and consist in constantly making head against the enemy.

We have seen how essential it is to troops on the march that they should be beyond the reach of sudden attack. This becomes still more necessary during a retreat, from the demoralising effect such a movement must more or less engender. If a victorious enemy follows up a successful battle by a very vigorous pursuit, then the defeated force should be so scattered and disorganised as to prevent what escapes from becoming for a long time effective. Such was the fate of the Prussians from the French pursuit after Jena. But unless the retreating force has been actually routed, as the French at Worth, or the quality of the troops be very bad, all that it requires to become again formidable is time, and that the pressure of a too close pursuit be removed. Soult's army, defeated at Orthes, and having to retreat under great disadvantages, but being feebly followed up, was again ready to fight with undiminished valour the following day on the Adour. Blucher's corps, defeated and scattered at Champaubert, Montmirail, Chateau Thierry, Vauxchamps, and driven with great

loss and disorder on Chalons, yet being then relieved from further pursuit, was again reorganised within three days and once more in strong march to join Schwartzberg on the Seine.

To save a defeated force from the results that must ensue should it be exposed in its retreat to incessant attacks from the enemy, some measures must be contrived for warding off these attacks. This is arrived at by detaching a portion of the force to oppose at all costs a temporary barrier to the enemy's advance, and so enable the main body to withdraw out of his reach and quickly restore order. This force is called a rearguard. And such a measure is equally necessary even should the force retire without an engagement, else it would be exposed to be attacked in rear while on the march.

But it may not at first appear very clear how a fraction of a force can arrest the enemy's advance, when the whole is retreating from inability to cope with him. Nor would it be able to do so were the pursuit but a continuation of the battle. But it seldom happens that this can be the case, as the exhaustion of the victorious side is usually so great, added to the approach of darkness, that even when very superior in numbers immediate pursuit is seldom entered on with much vigour. The activity of the Prussians after Waterloo must be attributed to their troops being fresh, from coming so late in the day on the field, a case too favourable to occur often. At Worth the prolonged resistance of the French only made their retreat at the end the more difficult, and though their defeat finished in a rout, yet the pursuit by the Prussians was so feeble, notwithstanding their immense superiority, that the following morning they were in complete ignorance of even what direction the French had taken. And though the cavalry came on their track that day, it was again lost the same evening and never regained. The situation of the retreating force must therefore be unusually bad when a rearguard cannot be extemporised under cover of which the main body will reorganise while it retires.

And this will further act as a screen to hide from the enemy the real state of their opponents.

When therefore time is allowed the vanquished to organise a retreat, the pursuing force must advance with a certain amount of caution ; for the enemy's movement may no longer be entirely due to inability to fight, and if falling back on reinforcements he may be in a condition to suddenly resume the offensive if a good opening is afforded him. Thus Napoleon, defeated by the Prussians at Brienne, fell back on Troyes to deal them the crushing blows that followed a few days later. Frederick, heavily defeated at Hohenkirch, fell back on a position at Kreckwitz too formidable to meddle with. And when the force pursued has withdrawn without a general action, this caution in the manner of following it up becomes still more necessary. For here it might only be retiring to fight under more advantageous conditions. Wellington, driven from the Coa by Massena, fell back to fight and win the battle of Busaco ; driven from the Duero by Marmont, he retired to be victorious at Salamanca. Hence though a well conducted pursuit would be carried out with great vigour, sufficient caution must be adopted to guard against surprise and coming on a concentrated enemy in too disseminated a condition. In the French pursuit of the Allies after Bautzen, an ambush arranged by the Prussians at Hayna resulted in the surprise and rout of a whole French division. Moreau, pressed too closely by Latour in 1796, turned to bay at Biberach and inflicted a severe defeat on his opponent.

The force therefore that a rearguard will have first to contend with will either be the ordinary advanced guard of the enemy, or some special body detached to the front to hang on and harass its movements. With a force of this latter kind a well organised rearguard would usually have little difficulty in dealing. For its actual strength being quickly gauged, the rearguard would regulate its movements accordingly. But when the

enemy's main body is close at hand, then the work becomes more difficult.

In both cases, however, its duties are similar, for the object is the same, to prevent the main body from being attacked, or its march interrupted, and delay the enemy's advance to the utmost.

When the disparity between the opposing forces is not very great, the rearguard of one will be about equal in strength to the advanced guard of the other. Under these circumstances the former, in a strong position, would have at the outset the advantage. But this advantage will be but temporary, as the head of the enemy's column, even if inferior in numbers, can afford to be daring from the certainty of support at hand. Their opponents on the contrary become momentarily weaker from the ever increasing interval between the rearguard and its main body. Yet the enemy will hesitate to attack a strongly posted rearguard until he has sufficiently reconnoitred the position to ascertain the amount of force he has to deal with, and until sufficient troops have come up to carry out the attack with success. Wellington, in pursuit of Soult falling back on Tarbes, was constantly arrested by rearguards occupying positions where it was impossible to ascertain their numbers, and where he was unwilling to be drawn into an engagement without first ascertaining what amount of force he had to deal with. Hasty attacks may not only compromise the safety of the force employed, but necessitate the engagement of the main body, contrary to the wishes and in a manner not in accordance with the views of the commander. In Wellington's pursuit of Massena from Portugal, the officer commanding the advanced guard attacked with a single regiment Ney's rearguard at Casal Novo. The remainder of the Light Division had to be pushed forward to extricate this regiment, which led to a general action fruitless of results and directly at variance with Wellington's combinations. The battle of Mars la Tour, in 1870, was brought on through a belief that the French force attacked was but a strong rearguard, and in the action that ensued the Prussian IIIrd Corps re-

mained for several hours in a position of great peril. And if the rearguard be attacked precipitately by the first troops that arrive, which would usually be cavalry, its force and position ought to enable it to defeat them. The unvarying manner in which the Russian rearguard repulsed with loss the precipitate attacks of Murat's cavalry in the retreat to Moscow is a good illustration of this.

The countenance of the rearguard should therefore compel the enemy to reconnoitre the position, to await the arrival of sufficient force to attack, and to form them from order of march to order of battle. But all these preliminary measures take time, and the gaining of time is the main object of a rearguard.

In effecting its purpose as a retarding force, the general mode of action pursued is to occupy a succession of defensive positions where advantageous ground offers along the line of retreat. Each position should be held until the enemy's dispositions for carrying or turning it become so developed as to ensure his success. Then the rearguard moves rapidly off to repeat the same manœuvre on the next suitable ground. These positions should be selected in advance by a staff officer, who would reconnoitre the ground to be passed over and communicate constantly with the commander of the rearguard.

The strength and composition of the rearguard will depend on that of the whole force, on the nature of the country traversed, and on the manner of the pursuit. Pursuits, we have seen, may be classed under two heads, those when the force pursued has sustained a defeat, those when it retires to avoid, for the time, an engagement. In the first case the cavalry of the victors has a fair field and cannot be too freely used. In the second, though moving with more caution, cavalry will still be in front to clear the advance and harass the enemy's rearguard. In both, therefore, impending attacks of that arm have to be constantly provided against, and accordingly the rearguard should be proportionately strong in that arm.

But cavalry alone, even when its superiority is decided, should

not prevail against a combined force of the three arms. For good infantry on its guard should not be ridden down, and while it holds off the guns would be safe even though its own cavalry be dispersed. In the retreat on Moscow Murat with 18,000 cavalry took the Russian rearguard beyond Krasnoi. It consisted of 6,000 infantry and 1,200 cavalry. The Russian cavalry was at once overthrown, but the infantry, formed into a single square defied all the French attempts to break it. The first charges were defeated by the fire of the square without even reaching it. The Russians continued their retreat in this order, halting whenever too closely pressed and driving off the enemy by their fire, and then taking advantage of his disorder to resume their retreat. This movement continued for some hours across an open country favourable to cavalry, and the Russians in the end defied further attack from some wooded ground which they gained with unbroken ranks.

But even if the attack were pushed to obtaining a decided success against infantry, still the latter, though worsted, should not be dispersed, and the cost to the cavalry would exceed the gain. In the remarkable rearguard action near Garcia Hernandez after the battle of Salamanca, the allied cavalry decidedly broke the squares of three French battalions. Yet the latter rallying again, took up a fresh position, and defeating with great loss all fresh attempts to meddle with them, resumed their retreat unmolested. Yet here the cost was considerable. For the victors had 52 officers and men and 67 horses killed outright, 58 officers and men and 46 horses wounded, while 6 men and 4 horses were captured. Napier remarking on this action says: 'This charge was successful even to wonder. . . Yet those who witnessed the scene, nay the actors themselves, remained with the conviction of this military truth, that cavalry alone are not able to cope with veteran infantry save by surprise. The hill of La Serena offered a frightful spectacle of the power of the musket, that queen of weapons.' If this verdict be true of the old fire-arm, how indisputable it has been rendered by the introduction of the new.

But when the pursuing cavalry is accompanied by horse artillery the retreat of the rearguard becomes more difficult if very inferior in these two arms. For the enemy's cavalry, encircling the infantry, will compel them to keep in pretty compact order, and the artillery playing on them in this formation should destroy them. Jourdan's rearguard in his retreat from Amberg was attacked by a large force of Austrian cavalry. The French squadrons were at once dispersed, but the infantry held out against all the efforts of their opponents until some guns were brought up, when the whole were either killed or captured.

Yet though conducting a retreat over open ground in presence of a superior force of these two arms would usually be attended with great loss, if not destruction, a rearguard of the three arms, if well posted in a good position, should always hold its own if the enemy's force is not overwhelming. In Thielmann's pursuit of Grouchy from Wavre, a division of cavalry and a battery of artillery overtook Vandamme's rearguard near Namur. The French cavalry was quickly swept aside, but the infantry and guns, taking post on some favourable ground, so completely held the enemy in check, that finding he could make no impression without infantry he desisted from any further attempt and withdrew. Similar incidents were so characteristic of the Russian retreat on Moscow that Jomini's remarks thereon are worth quoting :

'Rosen's rearguard alone, supported by two corps of cavalry in echelon, made head against the whole of the forces of Murat and Davoust. . . . Our squadrons, always in masses along the high road, were checked at every stream, wood, bridge, and defile and, battered by the enemy's well posted guns, had to await the arrival of the infantry, which only came up to see the enemy depart ; the latter falling back on his supports echeloned in rear, was soon ready to recommence the action with fresh troops against the head of our extenuated columns.'

It follows therefore from the use the enemy will make of his cavalry in pressing the pursuit, that it should when possible, and

the ground admits, be opposed by a force of the same arm with the rearguard. This would appear, with modern fire-arms, to be more than ever necessary to prevent artillery being brought to bear at long ranges on retiring infantry. For it is only by cavalry that the enemy's cavalry can be kept at a distance, and without the protection of that arm artillery cannot be pushed forward. In the French retreat from Moscow, their weakness in cavalry enabled the Cossacks to hang closely on their rear, pounding them with light guns which they brought up on sledges. But on the other hand, when the country is close and the movements confined to the roads, much cavalry with the extreme rearguard would be an evil. For unable to manœuvre, and powerless to oppose the enemy with fire, it would impede the action of the infantry and be a fruitful source of disorder.

But cavalry alone cannot be relied on to supply the amount of resistance that might at any moment be required from the rearguard. For if the main body were engaged in passing a defile, it would be necessary to check the enemy's advance at all costs. But if cavalry were worsted it would be obliged to retire some distance to recover, and if badly overthrown, its disorder would be an additional source of danger to the rest. In retiring on Landshut, in 1809, Hiller employed a body of cavalry to cover his retreat through that defile. But being defeated by the French, they were thrown back in such disorder on the infantry that a panic and confusion amounting to a rout of the whole ensued. In Wellington's retreat from Burgos the cavalry of his rearguard was overthrown with some disorder in the action at Venta del Pozo, but their retreat was covered and the enemy's squadrons stopped by the steady countenance of two battalions of infantry.

As a rearguard will have constantly to delay the enemy's advance by a more or less prolonged defence of positions, it cannot effect this without infantry and artillery. Guns opening on the head of his column oblige him to form for attack at a distance, and even on the march, when well manœuvred, they

will still deter him from pressing on too closely. But for stolid resistance infantry is the arm on which reliance must be placed.

As a rule therefore a rearguard should be composed of all three arms, so as to be tactically independent as a fighting body. When the force is strong in cavalry that arm should be largely apportioned to it, and there should be as many guns as can be freely manœuvred without encumbering or jeopardising the action of the remainder.

In occupying a position the nature of the ground can alone determine, as in every other case, how the different arms will be disposed. But as the business of a rearguard is rather to *threaten* to fight than to actually commit itself to an action, it is allowable for the sake of imposing on the enemy to occupy a greater extent of front than if the position were to be held to the last. Skill in the dispositions that would magnify the extent of the force in the eyes of the enemy is of primary importance for as his power of ultimately forcing the position only depends on the arrival of sufficient numbers, it should be sought to deceive him into making exaggerated preparations for attack, and so create the delay in his advance that is of importance. Guns should be brought to bear at as long a range as possible, for the object is to deter the enemy from advancing and compel him to deploy at a distance, rather than to produce a more destructive effect at decisive ranges. But they should not be risked by keeping them too long in positions exposed to capture.

Counter attacks may often be made with advantage, but as a rule they should be avoided when the results to be obtained are not urgent or decisive. Killing a number of the enemy is here of less moment than saving one's own men ; for the duty engaged in is in itself very harassing, and may have to be prolonged. Besides, it cannot be hoped that a success of a rearguard would have any but the most temporary and minor results when it is not to be followed up by the main body. And this would be opposed to the usual conditions under which a rearguard would become engaged. Yet it will sometimes happen that counter

attacks become necessary either in prolonging the defence to gain time for the main body, or in disengaging the rearguard, too closely pressed itself. A good instance of such a case was that of the 4th French Regiment in the rearguard action at Smolensko in 1812. This regiment formed the extremity of the rearguard, and defended the entrance to the suburb on the enemy's bank. When ordered to fall back over the river it was pressed closely in its retreat by the enemy, and on arriving near the bridge-head found the passage so obstructed by carriages hurrying over that there was no means of passing, and it had to halt. The Russians got two guns into position and opened fire on the regiment and on the bridge, bringing the disorder to its height. Yet the commander of the regiment dared not return to attack as he was without immediate support and had distinct orders to retire. But Marshal Ney arriving at the moment directed him to drive back the enemy, but not advance too far. He cleared the suburb and once more established his regiment at the entrance. Here he held his ground until the bridge became free, when the regiment was safely withdrawn across the river. But when a counter attack is made care should be taken that success is never allowed to diverge into pursuit. Eluding an attack in force, slowly falling back, and dealing sharp and rapid blows without laying oneself open to a serious return, should be the principles regulating the conduct of a rearguard.

When the enemy's preparations for forcing or turning the position are sufficiently developed to make a longer resistance dangerous, the rearguard should resume its retreat. This would be effected by moving a portion of the force to the rear while the remainder continued to show a bold front. The part so retired will, if necessary, take up a position to cover the retreat of that in front. In this movement some of the guns should be retained in action, as the withdrawal at once of the whole would betray the movement and embolden the enemy to press forward. The part holding its ground will in turn fall back on that already in position, and either pass through it or form up with

it, for a fresh effort at resistance. The enemy, who will have re-formed his order of march to follow in pursuit, will be again obliged to form order of battle to force his opponent to evacuate his new position, and once more the rearguard will perform the previous manœuvre. In this way Massena's rearguard occupied a succession of defensive positions between Casal Nova and Miranda de Corvo in March 1811, and so delayed Wellington's advance that the ground gained during a whole day little exceeded four miles. In work of this kind the great art is to know when to retire. For to fall back too soon would be but half carrying out the important duty engaged in, and prolonging the defence beyond a certain point would be to endanger the safety of the rearguard.

The danger a rearguard has to constantly provide against is being turned, so that it should vigilantly reconnoitre widely to its flanks. For to be cut off would not only entail the loss of the troops engaged, but the possibly still greater evil of exposing the main body to be surprised. During the march safety must be provided by flanking parties.

The disposition of a rearguard on the march will be guided by the principles regulating that of an advanced guard. A few patrols near the enemy for observation, larger parties next in support, and the bulk of the rearguard nearer to the main body. Should the pressure of the enemy drive in the smaller parties, then the whole should move prepared to meet an attack. If the ground be open a small rearguard of all arms would fall back somewhat in the following order. The infantry in the centre, broken up into two or more echelons; on the flanks a part of the cavalry, with the remainder concentrated, preceding the infantry; the guns would move under the protection of the other two arms, and when the ground in rear was favourable, take up positions to cover their retreat. When Wellington's rearguard, in his retreat from Burgos, was attacked by a numerous force of French cavalry near Venta del Pozo, the two battalions of the rearguard continued their march in echelon

about 200 yards apart, while the cavalry made head against the enemy. When the latter were driven in, the pursuing enemy charged down on the infantry, who halted, formed square, and beat them off. They then continued their retreat in this formation through a small village, and as the rearmost battalion issued from it, the French again advanced to attack, when both squares again halted to receive them. They first charged one square and were repulsed, and then tried the other, but this also completely failed. Having re-formed in masses close at hand, as if to renew the charge, the standing ranks fired volleys which compelled them to move off to a distance, and the allied cavalry having been by this time restored to order, the rearguard resumed its march without further molestation.

We have said that the rearguard must be careful not to be cut off, but it is of equal importance that it should not get hustled back on the main body. If pressed it must still retire fighting, some part of it always making head against the enemy. If a defile has to be passed by the main body, the enemy must be stopped at some distance from it at all costs, and enabled to move through in safety. A detachment should then be left behind to hold such a point to cover the retreat of the rearguard. But if this has not been done, the latter on approaching the defile would endeavour to check the enemy, while a part presses on to take up a position under cover of which the remainder would subsequently retire. But in a movement of this kind, if the pursuit is active and the enemy is aware of the existence of the defile, considerable loss may be incurred if the rearguard were pressed back in one body on it. In Sir John Moore's retreat to Coruna his rearguard arrived at the defile of Constantino closely pressed by the French. The bridge over the river was commanded by a hill close by, which, if the French got possession of, the passage could not be effected without great loss. The rifles and artillery were drawn up on this hill, and screened by them the remainder passed rapidly over the bridge, whose vicinity the enemy were ignorant of. The guns

next moved off at a trot, while the rifles held their ground. But the French, who had been unusually cautious, now realised what was going on and pushed quickly forward. But the rifles got safely across, and the whole formed a strong line of battle on the other side, where the British held their ground till nightfall.

The part of the force engaged with the enemy must under circumstances of this kind hold its ground to the last, or sufficiently retard his advance to prevent the part entangled in the defile from being attacked. For though its loss in doing so may be serious, still the loss to the whole would be much more so if one part were driven in disorder on the other. In the retreat to Coruna the main body of the rearguard took up a strong position behind the bridge of Calcavellos. The extreme rear of about 400 infantry and as many cavalry were left some distance beyond the stream to watch the two roads from Bemibre and Foncevado. The infantry were ordered to fall back as soon as the French came in sight, while the cavalry covered their retreat. The French advanced to attack with about eight squadrons, and the British officer, believing the force to be much larger, instead of falling back fighting, retired at full speed to the bridge. The infantry were then about passing, and as the French pressed hotly in pursuit, the whole came in one mass on the infantry. Some forty men were taken, the bridge lost, and the enemy's advance only stopped on the other side by the main body in position. In contrast to this was the rearguard action on the Mondego in Wellington's retreat from Busaco. The allied cavalry fell back rather slowly from Fornos to a ford over the Mondego beyond which the road led through a long defile. The French cavalry, of about equal numbers, were allowed to hang too closely on the British during the march, so they vigorously attacked the rear of the column as its head was entering the defile beyond the river. The officer commanding the rearmost regiment sent two of his squadrons across to hold the entrance to the defile, and with the other two braved the whole weight of the French attack. When subsequently

driven into the river and pursued by the enemy, the allied squadrons wheeled about to face their opponents and the combat was renewed in the river itself. The foremost troopers, dismounting on the opposite bank, opened fire with their carbines, which the French in turn replied to, yet the defenders held their ground until the enemy's infantry came up, when they followed the column, whose retreat through the defile had now been secured.

But even though the enemy does not press closely his pursuit, yet the rearguard should still endeavour to maintain contact with him. For it is of importance to be aware of what his movements are, as, though ceasing the direct pursuit, he may at this time be moving by a lateral route to forestall the rearguard or the main body at some point farther back. Thus in the French retreat from Moscow the Russian advanced guard moving by cross roads outstripped the French rearguard, and thrust itself between the latter and the main body near Wiasma. By a similar movement Sault endeavoured in marching by Mancilla to anticipate Sir John Moore moving by Benevento on Astorga. If there is reason to suppose that the pursuit is stopped, the rearguard should halt and push strong patrols towards the enemy. But if the retrograde movement is to be continued, a detachment should be left behind for a stated time to watch for the enemy and retard his advance. All roads running parallel to the line of retreat should be vigilantly watched by flanking parties.

The amount of resistance a rearguard should offer during a retreat will be determined by the instructions from time to time issued by the commander of the whole. Strong positions, such as defiles, where the flanks cannot be turned, should be availed of to check the enemy pressing forward too closely, but the rearguard should not allow a great interval to separate it from the main body to await the enemy in a position of this kind simply because of its strength. For the rearguard should never unnecessarily risk getting so compromised as to necessitate

the halting of the main body to disengage it. But when gaining time is of great importance to the latter, every such position may have to be vigorously defended. Massena's retreat from Portugal was characterised by a constant series of rearguard actions, in which every position was obstinately defended; for the country he was moving through was difficult, his main body had very little advance, and the pressure of the allies was close. On the other hand, in the Russian retreat on Moscow in 1812, the French advanced guard was being constantly checked by the enemy's rearguard in strong positions for defence, but the actual fighting was comparatively little, for as soon as the French were in sufficient force to attack, the enemy moved off to another position. The commander of the whole would also direct to what extent bridges should be broken, villages burnt, or other obstacles created to retard the enemy's advance.

EXAMPLE OF A REARGUARD CHECKING THE ADVANCE OF THE ENEMY WHILE THE MAIN BODY WITHDRAWS FROM ITS POSITION AND EFFECTS ITS RETREAT.

Action at Munchengratz, June 27, 1866. See PLAN XV.

On June 27, 1866, the Austrian 1st Corps was echeloned along the Iser between Brezina and Munchengratz. It was ordered to fall back the following day to Jicin, by the single line of Sobotka. To cover this movement and form a rearguard, one brigade (Leiningen) was ordered to concentrate at Munchengratz, to hold the passage over the Elbe, and on the approach of the enemy to burn the bridge.

This force consisted of 7 battalions
4 squadrons
1 battery.

On the morning of the 28th it was disposed as follows:—

1 battalion	at	Weisswasser
$\frac{1}{2}$ battalion	„	Nieder-Gruppai
$1\frac{1}{2}$ battalions (in support)		Weissleim
4 battalions	} at Kloster.	
4 squadrons		
1 battery		

About 7 A.M. the outposts were attacked by the Prussian advanced guard of the Army of the Elbe, consisting of 7 battalions, 5 squadrons, and 2 batteries, advancing from Hühnerwasser.

The Austrian companies, driven from Nieder-Gruppai, were supported by the battalion and a half at Weissleim. This failed to arrest the Prussians, and the whole fell back on Weissleim. They were here reinforced by two squadrons.

The Austrian commander, on hearing of the advance of the enemy, posted one battalion at Kloster to rally the advanced posts, another in rear of Kloster as a reserve, and withdrew the remainder of the brigade to the left bank of the river. Two companies had been previously pushed out to cover his right towards Bukowina.

While this movement was being carried out, he received orders to hold his ground till midday. So he immediately brought back his battery to the right bank, where it took post on a height to the north of Kloster.

The two Austrian battalions that had fallen back from Nieder-Gruppai to Weissleim occupied that village and the wood to the north of the road, and here endeavoured to check the advance of the enemy.

Against them the Prussians brought two batteries into action, and advanced to the attack with a battalion and a half in first line, followed by two battalions in support.

The Austrians were again forced out of this position, and fell back on Kloster, covered by the battery in position north of that village. The fire of this battery stopped for a time the enemy's further advance from Weissleim.

The Prussians reinforced the two batteries of the advanced guard with two batteries from the main body. A battalion and a half of infantry and a regiment of cavalry was moved by Bukowina against the right flank of the Austrians, and at the same time another battalion and a half by Mankowitz against their left. Two battalions were formed in two lines for a front attack of the village, while another battalion moved to the right of the high road, to keep up communication with the right flanking detachment. The left flank detachment had orders to leave two companies at Bukowina, to hold the passage of the stream at that point, and secure its connection with the main body.

Without awaiting this attack, the Austrian commander withdrew his force across the bridge, and took post as follows.

Two battalions (already on the left bank) to occupy the castle of Waldstein and the slope of the adjoining plateau overlooking the river.

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One battalion (previously at Weisswasser) to occupy the slope of the plateau overlooking the bridge on the south of the town.

The battery from the north of Kloster across the river to the high ground near the Jewish cemetery.

The hussars to follow the battery.

The battalion placed originally in reserve in rear of Kloster to follow the cavalry.

The two battalions driven back from Weissleim to follow previous battalion.

The battalion occupying the village of Kloster to cover the retreat of the whole.

This movement was successfully conducted, but the battalion holding Kloster had a severe engagement in withdrawing from that village. Moreover, the chateau of Kloster commanded the road by which the Austrians had to retire, and being quickly occupied by the Prussians, their fire from it caused considerable loss to the retiring force. A body of Austrians shut up in a building were cut off, and 240 of them taken prisoners. By 10 o'clock the Austrians were all over the river, and had set fire to the bridge.

The destruction of the bridge stopped the further advance of the Prussian infantry, but two of their batteries coming into action to the north and west of Kloster against the Austrian battery, exploded one of its ammunition waggons, and otherwise caused it considerable loss.

The Austrian commander held his ground till about 11 o'clock, when a heavy artillery fire in the direction of the Muskyberg, made him anxious about his line of retreat. At this time some detachments of the enemy had crossed by a ford below Munchengratz, and the head of the advanced guard of another Prussian division having passed the river at Mohelnic, was moving against his right flank, so he withdrew his brigade from a further defence of the river.

The rearguard in this case checked the enemy's advance for three hours in front of the defile. It then withdrew through the defile in the presence of the enemy, and prolonged the defence in rear of it until its position was turned.

EXAMPLE OF A REARGUARD DELAYING ENEMY'S PURSUIT.

Action of the Redinha, March 12, 1811. See PLAN XVI.

In the early part of 1811, a French army under Massena about Santarem was opposed to Wellington, covering the lines of Torres Vedras.

On March 2nd reinforcements from England landed at Lisbon.

On the 4th Massena began a movement of retreat, but still threatening Wellington's position on its left.

On the 6th his main body fell back on Pombal.

Wellington followed in pursuit of Massena, detaching two divisions and some cavalry to succour Badajoz.

On the 9th Massena stopped his retreat and concentrated his force in front of Pombal, as if to fight.

This unexpected movement disturbed Wellington's arrangements, and the divisions detached to Badajoz were recalled to join in an attack, if necessary, on Massena.

During the 10th, Wellington's force was being collected to attack Pombal.

On the night of the 10th, Massena sent his baggage across the river, and then suddenly retired through Pombal, covered by a rearguard under Ney.

On the 12th Wellington came up with Ney's rearguard posted in front of the Redinha stream.

Ney's position was on a table-land, the front approach to which was a hollow road forming a sort of defile. His flanks were covered by wooded heights. The entrance to this defile he occupied thinly with light troops.

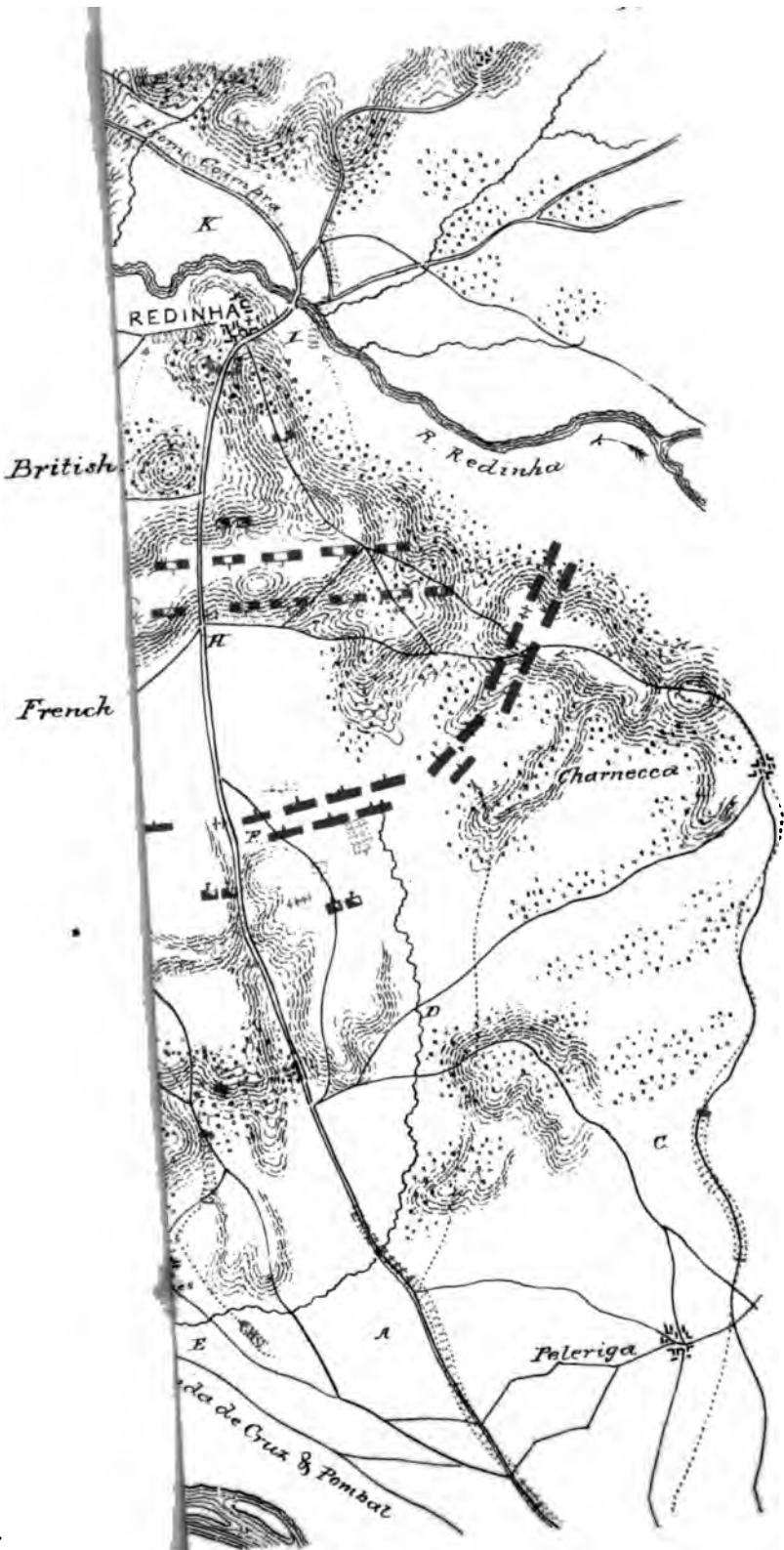
On the table-land in rear he drew up 5,000 infantry, some cavalry, and a few guns.

Behind the Redinha, on some commanding heights, he formed a division of infantry, a regiment of cavalry, and a battery of heavy guns, in such a manner as to make it appear a considerable force.

Wellington at once pushed the Light Division against Ney's right, and Picton's Division against his left.

The leading troops of the Light Division quickly drove the French out of the woods, but on issuing on to the plain were checked by a heavy infantry and artillery fire, and charged by some cavalry.

Picton carried the heights on the left.





•

Ney, outflanked on both sides, still boldly held his ground, and even made a counter attack on Picton's advanced troops.

Lord Wellington, imposed upon by Ney's resolute bearing, and in uncertainty as to the amount of force opposed to him, stopped the advance of the Light and Picton's Divisions, and moved up his other divisions to the front.

This occupied more than an hour, but still Ney held fast.

Availing himself of the shelter of the woods on both flanks to assemble in, Wellington deployed thence across the plain, in two lines and a reserve (about 30,000 men), to overwhelm Ney.

In the meantime Ney, checking Picton's skirmishers with his left, had, under cover of their fire, now rapidly withdrawn the bulk of his force.

When the British lines advanced, what remained of the French gave them a general volley, and when the smoke of this had cleared off none of the enemy were in sight.

The last of the French gained the village before even the cavalry could touch them, and covered by their reserves, withdrew safely across the river.

British loss, 12 officers and 200 men.

French loss about equal.

Ney's skill and resolution obliged his opponent to bring into order of battle a force six times greater than his own, thus delaying for several hours the enemy's advance, and finally withdrawing with no greater loss than he inflicted.

*EXAMPLE OF THE RETREAT OF A DETACHMENT IN
PRESENCE OF A SUPERIOR FORCE OF THE ENEMY.*

Combat of El-Bodon, September 25, 1811. See PLAN XVII.

In September, 1811, Wellington was engaged in blockading Ciudad Rodrigo.

21st. Marmont collected 60,000 men at Tamames for its relief.

This obliged Wellington to concentrate—Light Division beyond Agueda, on Vadillo river; 3rd Division, Pastores, El Bodon; 6th Division, Espeja.

24th. Marmont introduced his convoy.

Wellington moved 4th Division to Guinaldo, but did not anticipate a further advance of French. Yet it was of extreme importance to him

to hold Guinaldo, as, if driven beyond it, his wings would be intercepted and their retreat cut off.

3 battalions	}	occupied El Bodon heights.
5 squadrons		
2 batteries		
3 battalions	,,	El Bodon village.

25th. Montbrun, with 14 battalions, 30 squadrons, and 12 guns, crossed the Agueda at Rodrigo and advanced on Guinaldo. The road branched near Pastores, leading on one side over El Bodon heights, on the other to El Bodon village, by Pastores and La Encima. The point of embranchment was screened by a ridge, so that it was at first uncertain which road the French would take. The enemy's cavalry pushed rapidly along the right hand road, driving in the advanced posts, and without waiting for infantry, moved in three columns against the British position.

This position was a rocky ridge convex towards the enemy, intersected in front by stony defiles, and with deep ravines on both flanks. But it was too extensive for the force at hand to hold it.

The small British force was disposed—

The guns on the crest where the slope was favourable.

The 5th Regiment supporting the guns.

Two squadrons (German Hussars) across high road in centre.

Two ,, (11th Hussars) in rear in support.

One squadron (German Hussars) in hollow ground to left.

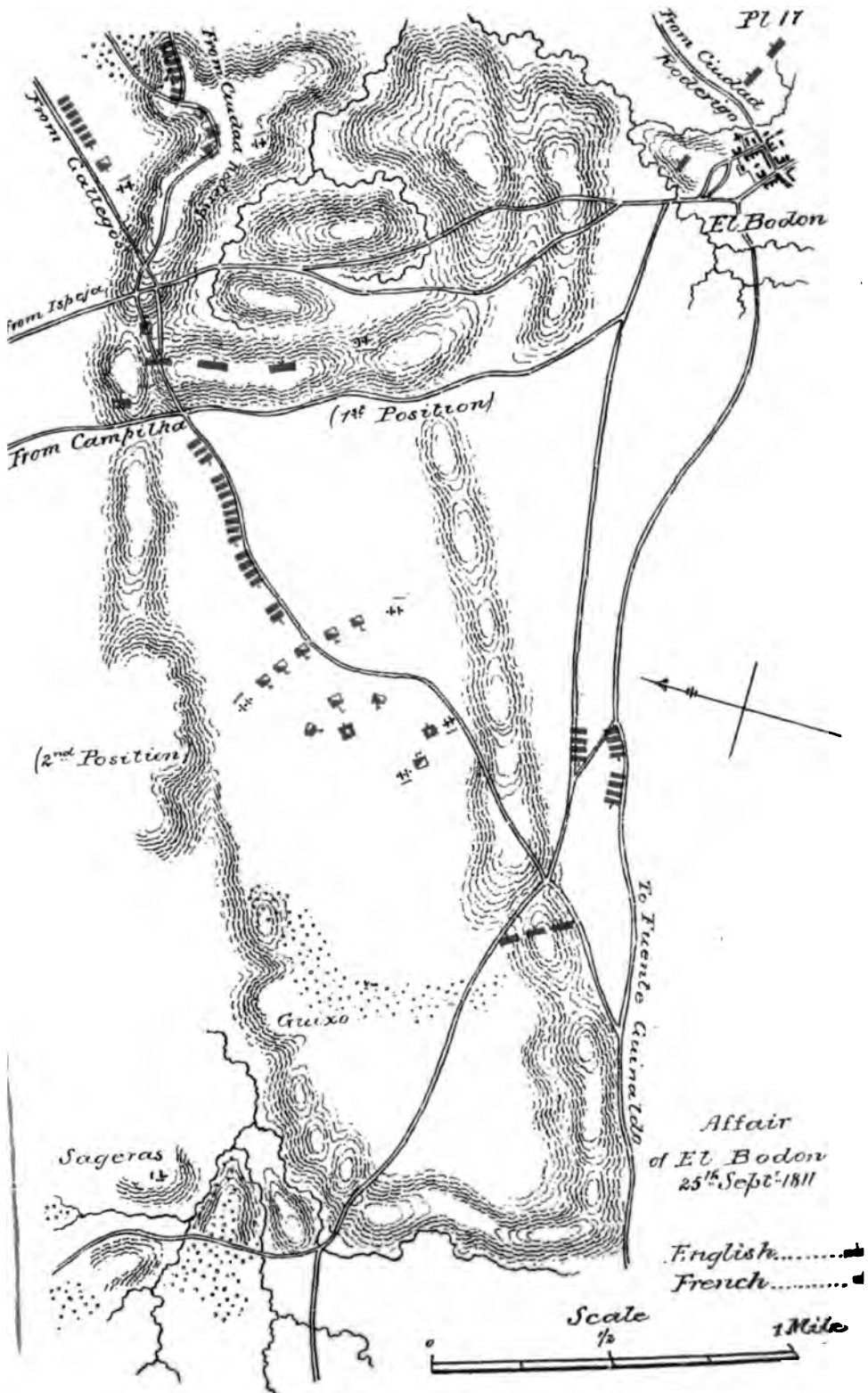
21st (Portuguese) } in rear
77th (British) }

The British guns opened on the enemy's cavalry as it approached, but the latter (numbering above 2,000) came boldly on—the centre column along the high road.

The leading squadron of the allies, waiting till it drew near, suddenly charged the head of this column and drove it back in confusion on the rear. The second squadron followed up the attack, and both uniting, succeeded by vigorous charges against the enemy's dense mass in forcing the whole down the hill in great disorder.

Further to the right, the left French column attacked the batteries. The latter fired grape, but the enemy, pressing onward, cut down nearly half the gunners and captured the guns.

The 5th Regiment now advanced in line, opened fire on the French squadrons, and then charging with the bayonet, drove them down the hill and re-took the guns. The 77th, coming into line, both regiments covered the withdrawal of the guns.





In the centre the action was continued by the cavalry, the allied squadrons rallying after each charge and again dashing against the enemy's columns. In this manner the small British force of about 350 troopers maintained their ground for upwards of an hour.

But the enemy's squadrons had now penetrated between the right flank and El Bodon, from the vineyards of which Picton was then extricating his troops, and was in no position to afford support. The enemy's infantry too was rapidly approaching, so Wellington ordered the whole to fall back and unite on the plain behind.

The 21st Portuguese moved first in square.

The 5th and 77th followed, both formed in one square.

The cavalry held their ground until they were in danger of being surrounded, when they fell back behind the Portuguese.

The 55th and 77th, being now completely exposed, the enemy's cavalry charged furiously down on three faces of the square, riding up to the bayonets. But they were repelled by the fire of the infantry, who remained unbroken.

Picton joined with the three battalions from El Bodon, and the whole continued the retreat across the plain. The French squadrons followed, swarming round the columns as they retired, while their artillery plied them with a brisk fire, causing considerable loss.

This was continued over some six miles of open country, but the steady countenance of the British kept the enemy's squadrons at a distance, and they did not again come to close quarters.

CHAPTER XV.

RIVERS.

A RIVER line, as a barrier in defence, is only formidable when its extent is limited and the volume of its water considerable.

To deny the passage of a river to an enemy he must be opposed in force wherever he presents himself. If the river line be long, great latitude is allowed him in selecting his point for crossing. And if he is enabled, as he usually will be, to conceal this point until the eve of the operation, his opponent may not then be in a position to impede it. For to resist successfully the defender must be in force at, or within reach of, the point selected; and strength at one point necessarily entails, where the front is extended, weakness at some other. If therefore the defender concentrates at certain points, others must be left unguarded, and if he disseminates his force along the whole line he becomes weak everywhere. In the first case the assailant has only to surprise a point weakly held; to effect his purpose in the second he should succeed wherever he presents himself.

But considerations both strategical and tactical fix on certain localities in every river line as those most vulnerable to the side holding it. These the defender should be able to discern, and by them his dispositions should be regulated. To distinguish them it is only necessary to reverse the situation, as those most suitable for forcing the passage are clearly those most menacing to the defence.

The success of the defence mainly depends on preventing the enemy from gaining a footing with even a portion of his force on the defender's bank. For under cover of this party the

remainder will cross in comparative security, and usually in much less time, from the opportunity afforded them of constructing a bridge. But if this first party be successfully opposed the attempt is for the time defeated, and its renewal later on at the same point should not succeed. For the defenders will have had time to be reinforced, whereas the assailants cannot return in greater strength, as it is not to be supposed that they would have previously neglected to use all the means for crossing at their disposal ; and to be able to construct a bridge under the enemy's fire from the opposite bank cannot be calculated on as a probability. This was very clearly proved in the Archduke Charles' attempt to force the passage of the Aar in his campaign in Switzerland.

It follows therefore, that to oppose the crossing it is as a rule necessary to prevent the enemy from establishing a covering party on the defender's bank ; also, that in achieving this the attempt is thereby more than half defeated.

But the numbers of the first party the assailant can send across can never be great, as the means of transport in the locality will usually be limited, and the assembling of an unusual amount would alarm the enemy and so defeat the project. Hence it is not always necessary for success that the defender's main body should be present where the passage is attempted. For a force equal to any the enemy has the means of sending across at one time should defeat his effort at landing, or at least of permanently establishing himself on that bank.

But the enemy once committed to such an enterprise will make strenuous efforts to support the party first sent across, and the position of that party would, if defeated, become so desperate that its own efforts in defence will usually be very resolute. Thus in the secondary passage of the Linth in 1799 some 600 French thrown over to the further bank were suddenly isolated by the breaking of the bridge of Grynau. They were attacked by 3 Russian battalions, but so vigorous was their defence, aided

by the fire of troops from the opposite bank, that they defeated the enemy with great loss.

It will be necessary therefore for the defenders to be prepared to deal not only with the first force the enemy passes over, but with the reinforcements he will use every effort to make speedily follow. For this purpose, in addition to holding the points likely to be assailed with a force able to make head against that the enemy first sends across, it will be necessary to concentrate within reach at some central position in rear, a force adequate to securing whatever point is attacked. For on the defender's power to assemble at this point in greater numbers than the enemy, depends his ability to defeat the crossing. In the defence of the Linth in 1799 Hotze broke up his corps into posts along the length of the river and kept only 2 battalions concentrated at Kaltenbrun. Soult, crossing at Bilten, seized with his first troops the village of Schoennis. Hotze moved up at once with his 2 battalions, and after some very obstinate fighting drove the French out of the village. But in the meantime the boats had recrossed and landed strong reinforcements to the French, while Hotze's reinforcements came in slowly and by driblets from the neighbouring posts. The French now attacked the Austrians in superior numbers, completely defeated them, and secured the passage.

The general principle of defence may therefore be said to lie in watching the river throughout its length with advanced posts, guarding in force certain points most suitable for a passage, and concentrating, in one or more central positions in rear, the main body. If a division (two brigades) of 10,000 men be required to hold a river line of ten miles, and if the brigades be posted five miles apart, and happen to be about equidistant from the centre, then 10,000 men can be collected on the centre within an hour, 5,000 at any point of the line within an hour, and the latter can be reinforced with the remaining 5,000 within two hours.

The breadth of the river, inasmuch as it affects the time

taken in throwing a bridge, and the number of bridges the enemy has the means of simultaneously constructing, will materially influence the defender's power of assembling his force sufficiently rapidly to dispute the passage. Napoleon's two passages of the Danube in 1809 form an instructive contrast on this head. In the first he possessed but a single bridge, and commenced crossing from the island of Lobau on the evening of the 20th. He began the battle of Essling the following day with 23,000 men, increased during the afternoon up to 30,000. By the following morning (22nd) 60,000 men in all had crossed. In his second crossing his preparations were so elaborated that he was able to construct simultaneously four bridges from Lobau to the left bank, each calculated to be completed within two hours, while one bridge made in a single piece was fixed in twenty minutes. The first covering party was embarked at 9 o'clock at night, and by day-break the following morning 70,000 men were drawn up in line of battle on the opposite bank. But such extensive preparations as these are usually impossible, both from the time they require and the warning they give the enemy.

It will sometimes happen that the defence of a river line is not made to rest on denying the passage to the enemy. For circumstances may render it more conducive to defeating his projects that the passage itself be surrendered or but feebly disputed, and a position for defence be taken up at some distance. This might occur where the points easy of passage were too numerous to guard, and a strong position existed on the defender's bank which the enemy after crossing dare not pass by. Such was Kaunitz's position behind the Sambre in 1794, from which he defeated three attempts in succession of the French to pass the river. A similar position was Lee's at Fredericksburg, in 1862, defending the line of the Rappahannock against Hooker. Such a course might be pursued too, when the point chosen by the enemy had too many disadvantages for defence. This was the case with Bertrand at Wartemburg in 1813, in holding the passage of the Elbe against Blucher. Or it may happen that

the enemy, after crossing, was confined to a single line of advance on which some strong position for defence lay to bar his progress. Such was the position of Feldkirck, closing the road from Chur to Landeck and Bregenz, in which an inferior force of Austrians completely paralysed Massena after his passage of the Upper Rhine in 1799.

Notwithstanding the seeming advantages such an obstacle should afford, military history teaches us that the passive defence of a river line never prevails against an enterprising enemy. The latter, screened in all his movements and preparations, ends by eluding the vigilance of his opponent, and, presenting himself at some point but weakly guarded, throws his force across and fixes himself on the other bank before a sufficient force can be assembled to overwhelm him. The most that can be hoped in a passive system of defence is to delay the crossing and to sometimes make it very costly.

An active defence is that which promises most chance of success. When the defenders hold a bridge head or other fortified post on the river, the power it gives them of issuing to attack the enemy while engaged in the passage, or to cut off his communications should he effect it, makes such a position very menacing. Of this kind was Bellegarde's position on the Mincio in 1800. He held the bridge head of Borghetto, and had his main body massed in rear about Villafranca. Brune, to force the river, allowed two of his divisions to become entangled in an attempt at crossing at Pozzolo below Bellegarde's left, while the two others and the reserve were drawn towards Monzambano. Issuing from Borghetto, Brune might have concentrated the mass of his force between the two fractions of the enemy, with a choice of acting against either, and he appears to have been justly censured for allowing such a favourable opportunity to escape him.

Forcing the passage of an unfordable river is effected either by gaining possession of one of its permanent bridges, or extemporising a means of crossing at some advantageous point.

To attack a bridge resolutely defended is usually a costly undertaking, as proved at Lodi, Ebersburg, Landshut ; and always of doubtful success, as at Arcola, Wavre, the Coa. It is only when it can be surprised and the defence thereby for the moment paralysed, that the passage of a river can be gained in that way without great loss. Massena forced the Adige in 1805 by a well organised coup de main on the bridge of Verona, and in a similar way the French forced the Zamega in 1809 at the bridge of Amarante. In both cases the loss was inconsiderable.

To construct a temporary bridge when the enemy is at hand to oppose it, the conditions must be unusually favourable to the assailants, and when he holds the opposite bank and can disturb the operation by his fire, the attempt can rarely, and should never succeed. Instances will occur where a broken bridge may be made passable even under the fire of the enemy, as was the bridge over the Danube at Elchingen by Ney, and that over the Saal below Kissingen in 1866 by the Prussians ; but these instances can only be quoted as exceptional. Napoleon's efforts to repair the broken arch of the bridge at Borghetto over the Mincio, in 1796, were rendered fruitless by the fire of the enemy until a party of French, fording the river, chased the former from the opposite bank.

The usual mode of throwing a force across a river the enemy undertakes to defend, is to extemporise a means of passing at some point that has been left comparatively unguarded. The intention to cross at this point must be concealed to the last, and then the enemy must be alarmed along the whole length of his line by feints of passing at other points. In the meantime the main body has been secretly concentrated at the true point of crossing, and the whole passed over to the further bank before the enemy can assemble an equivalent force to oppose it. This is in effect to surprise the passage.

The actual crossing is effected either by a fixed bridge, a flying bridge, or by boats. Rapidity in accumulating troops of all arms on the opposite bank being one of the essentials to

success, it is always sought to construct as quickly as may be a bridge by which cavalry and artillery can pass. But means for this are not always at hand. Boats, when possible supplemented by a flying bridge, must then do the work. In Soult's passage of the Linth, in 1799, all the means for crossing at his disposal consisted of eight boats; with six of these he carried over his infantry, and of the two largest he made a flying bridge. But this mode of crossing is dangerous, through delay, for delay in such operations too often means failure.

The locality for crossing we have seen to be dependent on the enemy's dispositions for defence, but strategical considerations often further influence its selection. For the advantages to be derived from forcing the passage may vary according as it is effected on the enemy's centre, or on one flank rather than another. And this may determine the adoption of a point that as regards local advantages would not be the most favourable. So materially may such considerations weigh, that the certainty of success at one point may be surrendered, and the risk of failure at another accepted, from the results it is hoped to achieve in case of success. Thus in forcing the passage of the Mincio, in 1800, Brune determined to pass his main body at Monzambano, on the Austrian right. The enemy's attention was to be attracted by a secondary passage at the same time at Molina di Volta, on the left. The principal passage was at the last moment deferred for twenty-four hours through incompleteness of the preparations. The secondary passage in the meantime succeeded, two bridges were constructed, and two-fifths of the whole force established on the other bank. Yet so strongly did Brune hold to passing his main body on the enemy's right flank, that he withdrew during the night half the force that had passed at Molina, and commenced anew the work of crossing at Monzambano the following morning. Similarly, in Moreau's passage of the Rhine in 1800, Napoleon strongly urged that the whole force should be thrown over, where eventually only one Division crossed; but Moreau's

cautious disposition made him forego the advantages for which Napoleon would have gladly accepted the risk.

The locality being fixed, tactical considerations alone determine the actual point of crossing. When a bend of the river indents the assailant's bank, a convergent artillery fire may be brought to bear on the other. Of such account is a fire of this kind in protecting the crossing, that this configuration of ground is carefully sought for. The assailant's bank should command the other, and both should be favourable for embarking and disembarking. The approaches to the river side should be sufficiently open to allow of guns and carriages moving freely, and sound enough to bear them. In the French passage of the Rhine at Reichlingen, in 1800, it was found on cutting a ramp when the bridge was completed, that the ground on the other bank, which appeared of sound turf, was in fact so marshy that guns or carriages could not be moved over it. In the passage of the Linth a similar impediment obliged planks to be laid down for about 600 yards to get the boats to the river side, and the noise made by the carriages in moving over them prematurely alarmed the enemy.

A tributary stream whose confluence is close by, affords material assistance. In it the boats and other appliances can be collected in concealment, and floated down to the main river with little labour when required. In Moreau's passage of the Rhine, in 1796, a canal connecting that river with the Ill enabled all the materials to be collected secretly at Strasbourg. This canal being unserviceable the following year when the French were again engaged in forcing the passage, the same point was no longer suitable for crossing. The stream of Schwachat concealed Napoleon's preparations for the first bridge at Ebersdorf, and the different canals in the island of Lobau rendered him similar important service in his second passage of the Danube.

Wooded islands, where the river is wide, also aid in the work of crossing. They break the length of the bridge, and thereby give it more stability. The labour of construction is

shortened by allowing of the first part to be commenced at both ends at once. An advanced point is gained, whence a closer fire can be brought against the defenders; and an island often serves to shelter the preparations for throwing the bridge. The islands of the Danube did much to facilitate its passage by Napoleon in 1809, as did those of the Rhine the passage of Moreau in 1796 and 1797.

On the further bank it is of extreme importance that some point should exist that would form a support to the first troops sent across. For on their power to maintain themselves against the enemy's attacks will depend the construction of the bridge, and therefore the success of the undertaking. A small wood, a village, a house, or an embankment afford valuable aid in this way. No position should exist from which the enemy's guns could, under cover, play on the bridge, for their effect would be to rapidly destroy the pontoons. Finally, the ground in the neighbourhood should admit of free space for the remainder of the force to form for action, according as it crosses.

But it will seldom happen that all these favourable conditions are found united. It may even be necessary to select a point where some of the most essential are conspicuously absent, and being therefore considered safe, has been left unguarded by the enemy. Such was the point of Reichlingen, where Moreau's right crossed the Rhine in 1800.

When it is determined to pass a river, the near bank should be cleared of all the enemy's advanced posts. For it is now assumed that his main body is already on the further bank. Should he hold a bridge head on the near side of the river, this point must be observed in sufficient force to prevent his issuing to attack the troops engaged in the passage.

Everything necessary for the actual crossing should be carefully and secretly prepared beforehand, so that nothing may be wanting when the moment arrives to delay the work. Faulty materials, which time did not admit of improving, contributed to the destruction of Napoleon's first bridge over the Danube, in

1809, and faulty preparations entailed the failure of the Archduke Charles' fine combination in the passage of the Aar.

The conveyance to the point of crossing of the materials required should be provided for with great care, and the operation itself accurately timed. For as everything tending to reveal the intended movement should be guarded against, all appliances to be used should be kept to the last moment out of sight. The locality of the passage should be carefully reconnoitred, and the bed of the river itself, when possible, sounded. The minutest details cannot be disregarded, for the success of the operation will, as a rule, depend on its being entered on with all the suddenness, and executed with all the rapidity, of a surprise.

The troops to be employed will be secretly collected close at hand, but their assembly should be deferred as long as possible to avoid arousing the suspicions of the enemy. Accurately timing such operations, if the force be large, is however a work of great delicacy, and its execution subject to all kinds of accidents. Yet a hitch in any part is apt to react fatally on the whole, as simultaneous co-operation being essential, partial action will prematurely disclose what is intended. Notwithstanding extreme efforts at precision in conveying orders for the French passage of the Mincio, in 1800, an error in calculating distance, coupled with the bad state of the roads, so delayed the arrival of the troops that the crossing had at the last moment to be deferred for twenty-four hours. On the other hand, the movements of the Austrian troops for the passage of the Aar, in 1799, were so well timed that the Archduke collected 50,000 men close to the point of passage, without the enemy on the opposite bank having the least suspicion of their presence.

The crossing must be protected by as strong a force of artillery as can be got into position, to clear the enemy's bank of troops occupying it, and silence any artillery with which he could trouble the construction of the bridge. The positions for the guns will be previously chosen, but they will not be occupied until immediately preceding the crossing.

It has been said that a covering party should be established on the opposite bank, before the construction of the bridge is attempted. This precaution is indispensable, and should never be omitted. The guns in position will do much to drive off the enemy where the country is open, but where even slight cover exists good infantry will hold their ground against artillery alone, and when their fire would command the bridge, it becomes impossible to construct it. The strength of the covering party will depend on that of the enemy's posts on the spot, and on his power of rapidly assembling reinforcements. For this party should be able not only to drive off the troops first met with, but also to make head, until reinforced, against any further force the enemy may be able to gather. Thus in Massena's passage of the Limat, it was known that some 2,500 of the enemy were encamped near the point of crossing. So great exertions were made to procure boats of the country from a distance, to enable the French to pass 600 men at once, as to attempt it with fewer numbers would probably lead to failure. In his second passage of the Danube the Emperor's preparations secured the passage at once of 1,500 men to cover the construction of each bridge.

But it sometimes happens that conveyance for a covering party cannot be obtained. To remedy this, a body of infantry trained as swimmers, have often been used with great success.

Moreau, held in check by Kray on the Danube in 1800, determined to force a passage below Ulm. But he had neither pontoon equipage nor boats, and all the permanent bridges had been broken by the enemy. It was ascertained that those at Blindheim and Gremheim were easiest to repair, so having collected all the materials necessary for restoring them, Lecourbe made a false attack on Dillingen to attract the enemy to that point.

On the following morning he drove off the posts on the opposite bank with his guns, and 80 men swam across at Blindheim, two small boats carrying their clothes and arms. They immediately overpowered the enemy's post and took two guns. Some gunners at once crossed on ladders laid between the

standing pillars of the bridge, and worked the guns against the enemy. The bridge was rapidly made temporarily passable, and, more infantry crossing, the passage was secured. In a similar way the passage of the Duero at Tordesillas was seized by the French in 1812, and Wellington's position on the river completely turned. Soult's covering party in the passage of the Linth was composed of a body of 150 trained swimmers.

After driving in the enemy's posts, the covering party should seek to strengthen itself against a counter attack. Some natural feature may exist to aid it, such as the small wood covering the French passage of the Danube near Essling, or the embankment that saved Dupont at Molina di Volta on the Mincio. For in most cases it must expect to be vigorously attacked before the bridge can be established. To hold its ground until sufficiently reinforced to attempt an attack itself, is the first duty of a covering party. It should never be tempted into premature efforts to dislodge the enemy from a position he has taken up in the neighbourhood until sufficient troops have passed over to render the passage of the remainder secure. In Napoleon's attempt to surprise the passage of the Danube at Nussdorf in 1809, the covering party successfully gained a footing in the Schwartze Laken. But advancing in pursuit of the enemy's picquets instead of protecting the crossing of reinforcements, it was overwhelmed before it could be supported, and the passage of the river lost. Similarly, on the Narew, in 1806, the secondary crossing at Modlin was lost through the covering party pursuing the enemy's posts instead of establishing itself in the village it was in possession of.

While the bridge is being constructed the boats should continue to carry infantry across, and as soon as it is completed some cavalry and guns would be at once moved over to their support. The ground on the other bank will alone determine in what proportion either arm would be of use, but the combined action of the three will generally be required to deal with the force the enemy will have assembled. At the passage of the Rhine

at Reichlingen the covering party was a good deal harassed by the enemy's cavalry, until the completion of the bridge enabled some squadrons to cross. The timely arrival of two squadrons who had filed one by one over the partly restored bridge at Blindheim, decided a very obstinate engagement in favour of the French.

It has been said that while the real passage is being conducted, the enemy's attention should be attracted to other points of the river. This will usually be effected by secondary crossings simultaneously undertaken at some distance from the main one. This distance must not be too great, else the enemy may afford to neglect them; and it must not be too small, else they will not achieve their object of attracting him far enough from the main point. The points must be chosen with care, and the attempt made with an appearance of force, to give it as much as possible an air of probability; otherwise the enemy will see through the ruse and be warned to look for danger elsewhere rather than deceived into supposing it at hand.

A secondary crossing may be either confined to a feint or converted into an actual passage, as the force the enemy is met in and the general situation determines. Massena, defeated in his attempt to force the passage of the Upper Rhine at Flasch, left a part of his force to maintain a false attack at that point, and rapidly moved the remainder down the river to Azmoos, where a secondary crossing had been in the meantime effected.

The principal and secondary crossings should be closely combined, if not actually simultaneous. For a delay in one may enable the enemy to concentrate against the other and overwhelm it. When Brune in forcing the passage of the Mincio allowed the secondary crossing at Pozzolo to precede by twenty-four hours the principal one, he exposed it to the weight of an attack by the whole Austrian army, in which Dupont's division suffered heavy loss to little purpose and barely escaped a disaster.

A good instance of a skilful commander being completely

deceived by a secondary crossing was that of the Archduke Charles on the Adige in 1805, when that river was forced by Massena. The Archduke had his main body at St. Gregorio, his right at Verona, his left at Legnago. Massena concentrated his army about Zevio, opposite the Archduke's centre. He determined to force the bridge at Verona, and at the same time make a feint at Bocca-Civetta. The latter penetrated to Cologne and alarmed the Archduke's camp. Supposing the true point of crossing to be on this side, and the attack on Verona a feint, the Archduke slightly reinforced the latter and moved his main body against the former. Before he discovered his error Massena had carried the bridge of Verona, defeated his right wing, and secured the passage.

Secondary crossings are sometimes made with a view to more rapidly throwing the whole force across, or to aid the principal one by moving down the opposite bank. MacMahon's passage of the Ticino at Turbigo was a movement of this kind made to favour the main passage at San Martino. But such detachments must be made in sufficient force lest they be intercepted and themselves overwhelmed. Lecourbe's passage of the Rhine at Reichlingen was accompanied by a secondary one at Paradis. But the latter was only composed of two battalions and four guns. Having gained the other bank it was attacked by three regiments of infantry and two of cavalry, and nothing but the sudden arrival of a detachment from the main body, which had in the meantime crossed, saved it from destruction. Attempting to pass by a number of points should be avoided, unless they are so close that the different columns could afford each other mutual support.

*EXAMPLE OF FORCING THE PASSAGE OF A RIVER AT A POINT
WHERE THE ENEMY CANNOT ASSEMBLE IN TIME TO
OPPOSE IT.*

Po, 1796. See PLAN XXII.

At the outset of the campaign of 1796 in Italy, a French force under Bonaparte, of about 35,000 men, was opposed to an Austro-Sardinian force, under Beaulieu, of about 60,000. The theatre of war was the country south of the Po, between Genoa and the Alps. The Sardinians occupied a line from the Stura river to Mellesimo, with head quarters at Ceva. The Austrians prolonged this line to the left as far as Voltaggio.

Bonaparte concentrated against this extended line at Savona.

In the first important engagement of the campaign (Montenotte), the French, victorious, penetrated between the Austrians and Sardinians ; following up this success the next day, they completely separated them.

Bonaparte, leaving one division to observe the Austrians driven back on Aqui, turned, with the remainder of his force, on the Sardinians now concentrating on Ceva. From Ceva they fell back on Mondovi, where they were again defeated. This led to an armistice with the Sardinians, in which they separated themselves from the Austrians, and ceded to the French the fortresses of Alessandria, Tortona, Coni, and Ceva.

Bonaparte now turned against the Austrians.

Beaulieu had withdrawn across the Po at Valenza, destroying the bridge, and had taken up a position to defend Lombardy and cover Milan.

The Po, increasing considerably in width from Casale downwards, is a formidable barrier in this direction.

Bonaparte aimed at driving the Austrians out of Lombardy, but to do this he must throw his army across the Po.

In the armistice with the Sardinians, he stipulated for the right of passing the river at Valenza. This led Beaulieu to infer that the French would attempt the passage at that point. He accordingly took up a position with his main body on the Ogogna at Vallegio ; an advanced guard on the Sesia ; a Division (General Liptay) on the left bank of the Ticino near its confluence with the Po ; a division at Buffalora ; a

brigade at Somma. He also threw up some fortifications along the line of the Ogogna.

To attempt the passage at Valenza would be to do so in face of an army in position on the other bank. This would entail great loss, and be of doubtful success. Further, even were the passage effected, the subsequent advance on Milan would lead the French directly against a number of smaller rivers, affording good defensive positions to the enemy.

Clearly, therefore, if the Austrian position could be turned, what was aimed at would be best effected. Could that turning movement be carried out on the enemy's left, then not only would the passage be gained, but his line of retreat to the Mincio seriously endangered.

But below Pavia the Po increased in size and difficulty. Moreover Bonaparte had no pontooning equipage. Still he determined to attempt a passage at Piacenza. For this it was essential to deceive the Austrians to the last.

The position of the French on May 5, was

1 division threatening Valenza.

$\frac{1}{2}$ „ at Sale Cambio.

The remainder echeloned towards Voghera.

Bonaparte collected 3,000 infantry and 1,500 cavalry at Casteggio, and on May 6 led them in a forced march by S. Giovanni on Piacenza. At the same time a hundred cavalry moved along the river bank to seize any boats that could be found, of which they secured several and brought them to Piacenza.

This advanced party reached Piacenza the following morning, the 7th, and the infantry at once commenced crossing. There were only two squadrons of Austrian cavalry to oppose them, and these they quickly obliged to retire.

As soon as this movement on Piacenza had been sufficiently pronounced, three divisions of the French followed in forced marches. The Division before Valenza was still retained there.

By the evening two divisions had effected a crossing, and during the night the third.

When Beaulieu detected this movement of the French, he ordered Liptay to move with eight battalions and eight squadrons towards Pizzighetone to oppose it. He followed himself in the same direction with ten battalions and twenty-two squadrons.

On the 8th, the French attacked Liptay at Fombio before Beaulieu came up, and drove him back on Pizzighetone.

Beaulieu coming up divided his force, seeking to establish communication with Liptay.

After a night affair with the French outposts, in which he was repulsed, he fell back on Lodi.

The French were now securely established on the left bank.

*DETAILED EXAMPLE OF FORCING THE PASSAGE OF A RIVER
AT A POINT WHERE THE ENEMY CAN ASSEMBLE IN
FORCE TO OPPOSE IT.*

Limat, 1799. See PLAN XXV.

In September, 1799, the centre and left of Massena's army was cantoned along the left bank of the Linth and Limat. These rivers were in effect one, that part above Lake Zurich being called the Linth, that below the Limat.

Opposed to Massena was an Austrian force under Hotze on the Linth, and a Russian force under Korsakof on the Limat.

Massena selected the point of Dietikon for forcing the passage of the latter.

The line of the Limat was short and very strong, and the points suitable for a passage few. The right bank commanded the left throughout, so that all movements on the latter were entirely exposed to view. The width of the river was from 90 to 100 yards.

The point of Dietikon was chosen for the following reasons. Here the river bent on both sides so decidedly towards the enemy that an effective cross fire was obtained to sweep the opposite bank, while the positions for the artillery were excellent. The peninsula formed by this winding of the river narrowed the front on which a force landing could be opposed, and containing a wood that ran down to the river, formed a strong position for an advanced party to cover the passage of the remainder. Moreover, this wood effectively screened the point selected for the bridge. The anchorage appeared good, and the course of the river, at other points excessively rapid, was here considerably lessened by the winding of its bed. In rear the peninsula was closed by a high ridge covered with pine trees, but between this ridge and the small wood in front the ground was so open as to be everywhere swept by artillery from the left bank.

But this point had also its disadvantages. There was no protecting island, nor was there any auxiliary stream in which to collect the boats

and cover the embarkation of the advanced party. This latter might have been obtained higher up or lower down, but then all the advantages of the positions for artillery should be abandoned, as also the important one of having the point for the bridge hidden from the enemy.

It therefore became necessary that the boats should be brought by land, on carriages, to the river-side; that they should be unloaded, launched, and the troops embarked within view and under fire of the enemy. For his posts were thick on the other bank, and supported from a large camp close in rear of the pine wood.

The obstacles to be contended with were :

1. The difficulty of moving by land all the appliances for crossing when no adequate pontoon train existed.
2. The unloading of boats on the river-side in the presence, and possibly under fire of the enemy, when the horses and men employed were those requisitioned in the country.
3. The small number of boats it was possible to unload together at the required point for the transport of the advanced troops, and the advantage this delay would give the enemy in assembling to resist the passage.
4. The confusion and impediment to embarkation unavoidable with an unorganised body of drivers, horses, and carriages, crowded on the river-side.

The means available for effecting the passage consisted of sixteen large boats, at the moment forming a bridge at Rothensweil on the Reuss. This river ran nearly parallel to the Limat, and was separated from it by a range of mountains joining on to the Albis. These boats were to form the bridge.

For the passage of the first troops, to cover its construction, there were no boats available except what could be procured in the country. Of these, such were only useful as could be conveyed on carriages. With great difficulty thirty-seven in all were procured, the largest carrying forty-five men, the smallest about twenty. They were collected at the small town of Bremgarten on the Reuss, whither it was intended to float down the boats forming the bridge at Rothensweil, and thence the whole were to be conveyed over the mountain to Dietikon.

But this journey over the mountain was one of great difficulty. For the road was very narrow, always bad, and now almost destroyed from the incessant rain of a wet summer. The bridge and streets of Bremgarten were narrow, with sharp turns and steep slopes, and almost impracticable for the long and awkward carriage loads. Yet this was the

only road available, where a single breakdown would have completely blocked the passage of the remainder.

The transport available amounted in all to only twenty-four carriages. It became therefore impossible to transport the whole of the boats in one journey.

It was accordingly arranged that those for conveying the covering party should be first brought over the mountain in two detachments, and that to avoid arousing the enemy's suspicions, those for the bridge should continue in their present position at Rothensweil until the day for the passage of the Limat was definitely fixed on.

The work of transport was performed with the artillery horses of the Division charged with effecting the crossing. The convoy arrived at Dietikon without being observed by the enemy. It was halted behind a wood until nightfall, and then moved up near the village, unloaded, and the boats placed in concealment under cover of a small camp already existing about a thousand yards from the point of crossing.

Lorge's Division, supported by one of Mesnard's Brigades, in all about 15,000 men, were appointed for forcing the passage. This division had its right at Altstetten, its left near Baden. On the right of Lorge was Mortier's Division, about 6,000 men, from Altstetten to Aldesweil on the Sihl. On his left was Mesnard's Division, along the Limat, from Baden to the Aar.

Opposed to the French was Korsakof's Corps—the main body encamped between the town of Zurich and the Sihl, with outposts pushed forward to Altstetten, where a small stream separated the sentries of both armies.

On the right bank of the Limat the enemy had a camp of 2,000 strong in rear of the pine wood before mentioned, and close to the point selected for crossing. Nearer to the bank in the same neighbourhood was an additional body of 400 Cossacks, posted in the small wood.

To the right, at Wurenlos, was another camp of about 6,000 men, closing the defile leading to that village. Further to the right was a third camp of about 2,000 men near Wettingen.

In addition to these, parties were distributed in the different villages on the road Zurich—Baden, while along the river the posts were so numerous that the sentries were nowhere more than a hundred yards apart.

Korsakof's force, actually on the Limat, was about 25,000 men.

Thus to oppose the French there was close to the point of crossing 2,400 men. Within four miles, at Wurenlos on the left, 6,000 men. Within six miles, at Zurich on the right, the main body of the force,

It became a matter of great moment therefore for the French General to conceal the point of crossing to the last.

Massena fixed the morning of September 26 for the passage, but on the 23rd circumstances made him suddenly alter it to twenty-four hours earlier. This was an important change, as the boats for the bridge were still at their old place at Rothensweil, for every precaution was deemed necessary to avoid arousing the suspicions of the enemy. So it was not intended to move them till the last moment, and nothing was as yet done.

Yet now such activity was displayed that the bridge was dismantled and the boats floated down to Bremgarten, where they were drawn on shore, loaded on carriages and thence transported to Dietikon, so as to arrive there the following evening by nightfall.

The convoy consisted of one small boat and sixteen large ones (bateaux d'arsenal), loaded on their carriages and drawn by the artillery horses of Lorge's Division. About sixty country carts, chiefly drawn by oxen, were requisitioned to carry the tackle and equipment, and formed part of the convoy. It marched in sections of two boats, each section followed immediately by its equipment complete. Some cavalry were distributed amongst the requisitioned carts, to ensure that none lagged behind.

At nightfall on the 24th the immediate preliminary work of crossing began.

The boats for conveying the first troops were, as we have seen, already on the spot. When darkness set in they were moved on the shoulders of infantry told off for the purpose, to the bank. Here they were arranged in three divisions not far apart. The men to work them, also in three divisions, lay down by them, where they awaited in perfect silence the signal to attack.

The lightest boats, as most quickly launched, were placed on the right, to enable the first troops to surprise the Cossack post in the wood, and so secure the passage of the others. The medium-sized boats were on the left, to quickly overpower the enemy's post on the island whence the point of passage was taken in reverse. The heaviest boats were in the centre.

Some sappers were posted at the points of embarkation to make ramps for launching the boats, as the bank was steep and some seven feet above the water. This work was completed by midnight, and apparently without being observed by the enemy.

The boats for the bridge were kept for the present behind the village of Dietikon.

To cover the passage, artillery was placed on the plateau in front of Nieder Urdoof, which would take the enemy in flank and rear and sweep the ground between the two woods. This fire would powerfully aid in preventing an offensive return when the enemy was once driven from the small wood.

Below Dietikon guns were also placed along the bend of the river to take the enemy in flank and rear on that side, throw shells into his camp, and cross their fire with those on the right.

In the centre some guns were distributed in the neighbourhood of the crossing, while some more were held in reserve for possible use in the plain towards Schlieren.

On the high ground over the river opposite Odweil, a battery of heavy guns was established to command the defile leading from Wurenlos, and thus close the road against reinforcements attempting to advance on that side.

The infantry forming the advanced guard were drawn up by the time appointed about fifty yards from the bank. The arrangements were made with a view to throwing 600 men across in the first passage.

All these dispositions were effected in such perfect order and silence that the enemy did not take the least alarm.

So far, all preliminaries for the passage were complete.

But we have seen that the enemy's main body at Zurich had its outposts at Altstetten, less than four miles distant from the point of passage. Thus he had the power of taking the attacking force in rear, and so placing it between two fires. To provide against this a strong body of infantry and cavalry of Klein's Division was moved up towards Schlieren.

As a diversion, Mortier, on the right, was to attack the Russian camp at Wollichsofen, and on the left Mesnard was to keep the enemy occupied as far as the Aar, and attempt a false passage at Bruck.

At daybreak the signal was given for the small boats on the right, destined to carry the head of the advanced guard, to launch and push across against the small wood. This party consisted of about 180 men. The remainder were in the meantime held back.

But the water on the right was not deep enough near the shore, and the boats, when weighted with the troops, stuck fast. But the delay occasioned only lasted a few minutes.

In the meantime the enemy was alarmed, and a musketry fire was opened along the whole line. Instantly the remainder of the advanced guard, seizing the other boats, launched them so rapidly that no time was allowed the sappers to attempt cutting ramps.

Within three minutes from the first shot, not a single boat remained on the left bank, and six hundred men were on their way across the river.

The enemy kept up a sharp musketry and artillery fire on the boats, yet not one was sunk nor was there a man drowned.

The French artillery, aided by infantry interspersed between the batteries, quickly cleared the opposite bank of the enemy. But this fire had soon to cease, from the progress made by the attacking force in the wood. All efforts were now directed to accelerating the passage of more infantry.

When the work had so far advanced that the infantry thrown across seemed certain to hold their ground, the bridge equipage, hitherto held back, was rapidly brought forward and the bridge commenced, notwithstanding that the enemy's artillery still commanded this ground.

While this was proceeding the boats had so quickly increased the numbers on the right bank that the French advanced to attack the enemy, now strongly posted in the pine wood and on the ridge in rear. After some very obstinate fighting this position was carried and seven guns captured.

Within an hour from the commencement of the operation the pine-wood ridge and the enemy's camp, still standing, was in the hands of the French.

Some sappers were now employed to make a road practicable for cavalry and artillery through the small wood of the peninsula.

The bridge, commenced about five o'clock, was finished by half-past seven, and this without impeding the passage of the infantry in the boats, as by that time 8,000 men had crossed over.

The whole force destined to cross (about 15,000 men) was on the other bank by nine o'clock—within four hours of the commencement of the passage.

*EXAMPLE OF FORCING THE PASSAGE OF A RIVER IN
IMMEDIATE VICINITY OF THE ENEMY'S MAIN BODY.*

Duoro, 1809. See PLAN XXIII.

In May, 1809, Sir A. Wellesley advanced from the Mondego against Marshal Soult at Oporto, holding the line of the Duoro. The French advanced parties fell back fighting, and on the night of the 11th retired over the Duoro, destroying the bridge of boats at Oporto.

Soult intended to defend the passage, and had about 10,000 men on the opposite bank. He had collected all the boats on the river and secured them on his own side, thinking thus his safety was provided for. He judged that any attempt by the English to cross would be made with their own ships at the mouth of the river.

It was of extreme importance to Sir Arthur Wellesley, from the plan of his campaign, to effect a crossing without delay. Still the Duoro was unfordable, more than 300 yards wide, and the other bank occupied by a veteran army.

On the morning of the 12th the English army was secretly collected behind the Serra height.

In reconnoitring from this rock the English General remarked the excessive paucity of the French outposts, and the general want of vigilance apparent on the other bank. Opposite him stood a large isolated building called the Seminary, surrounded by a high wall, which on the river side ran down to the bank. This building commanded all the neighbouring ground and was unoccupied. Moreover, the winding of the river round the Serra rock would conceal a passage at this point from the city. Sir Arthur determined, if he could get any boats, to attempt a passage here, seizing that building as a first point of defence.

A staff officer sent up the left bank to look for boats, found a small one about two miles off, lying on the mud. In this he crossed over to the other bank, and succeeded with difficulty in inducing some peasants to accompany him. In a short time he returned with three large boats. In the meantime a brigade of infantry, a regiment of cavalry, and two guns, under General Murray, were sent about three miles up the river, to effect a crossing, if they could, at Barca de Avintas.

When the first boat arrived at the point of crossing, an officer and 25 men embarked, and in a quarter of an hour were on the other bank and in possession of the isolated building. The two other boats closely followed, taking in all three companies. Eighteen guns were now in battery on the British side, on the height called the Serra. These guns swept the ground to the left of the Seminary, and so would confine an attack to the single entrance in front of the building.

By this time the British movement had been detected. One French battalion and then another moved down rapidly against the Seminary, and notwithstanding the fire of the English guns from the other bank, the struggle became desperate and the moment critical. The French succeeded in getting one gun up to batter down the building, but the English charged and captured it. At last Murray's force appeared moving down the right bank from Barca de Avintas, and Sherbrooke's

Division had begun to cross at Villa Nova in boats brought over by the citizens. Three battalions of the other divisions had now too gained the Seminary.

Their efforts to drive the English from the Seminary being unavailing, taken in rear through the town by Sherbrooke's Division, and their line of retreat to Amarante threatened by Murray's force, the French now drew off, and the passage of the river was secured.

*EXAMPLE OF FORCING THE PASSAGE OF A RIVER IN RETREAT
IN THE PRESENCE OF THE ENEMY ON BOTH BANKS.*

Beresina, 1812. See PLAN XXIV.

In the retreat from Moscow in 1812, Napoleon learned, on arriving at Toloczin, about 40 miles from the Beresina, that the only bridge by which he could pass that river was in the hands of the enemy.

This point, Borisov, was held by a Russian force of about 30,000 men under Tchitchagoff, while pressing on the French right was another force of about equal numbers under Wittgenstein, and on their left rear followed closely the advanced guard of the main Russian army of Koutousof.

What was left of the French army did not exceed 35,000 men, and it was attended by an immense horde of unarmed stragglers and camp followers.

The Beresina was in this neighbourhood unfordable. Its banks throughout its course were marshy and wooded.

The French had no longer a bridge equipage left, as the last had been burned some days previously at Orcha, the horses being required for the guns. High up the river towards its source, fordable points could have been obtained, but this would entail a march open to a flank attack from Wittgenstein, while Tchitchagoff and Koutousof closed in on the rear. Below Borisov the country was still more wooded and marshy than above; the bridges leading to the river across these marshes had been destroyed.

The situation of the French seemed desperate. An army worn down by famine and disorganised by retreat, with an unfordable river in front and no appliances for throwing a bridge; an enemy of equal force defending the opposite bank; a superior enemy pressing on its rear.

The Emperor determined to move straight on Borisov, recapture

that passage if possible, and if he failed search for one in the neighbourhood.

The corps of Victor and Oudinot had been hitherto opposed to Wittgenstein and were now about Czereja. These corps, though greatly reduced in numbers, had as yet escaped the disorganisation of the rest.

Oudinot was now ordered to retake Borisov.

Victor, with a much inferior force, was to continue holding Wittgenstein in check.

Napoleon, with the remainder, followed Oudinot.

On the 23rd, Oudinot surprised the Russians at Borisov, drove them from the town, but in retreating they burnt the bridge. Tchitchagoff took up a position on the opposite bank.

On this day an accident revealed the existence of a ford by which cavalry with much difficulty could pass, about eight miles above Borisov. Napoleon determined to construct a trestle bridge at this point.

Everything now depended on concealing the true point of crossing long enough from Tchitchagoff to prevent his interfering with the work, and on completing it before the pressure on their flanks and rear would drive the French into the river.

Directions were at once sent to Oudinot at Borisov to prepare secretly for a passage at the true point, and at the same time make demonstrations along the river below Borisov to attract Tchitchagoff's attention to that side. He was also to allow the rumour to spread in his own force that the passage would take place below Borisov, so as to draw in that direction the crowd of camp followers that encumbered the army. To further fix the enemy's attention on the lower part of the river, the Emperor moved forward the guard to Borisov.

On the 24th, General Eblé, with about 400 men that remained of the pontoon train, started from Lochnitza for Studianka, the point of crossing, where they arrived about midday on the 25th. Six carriages containing tools, nails, &c., had been fortunately preserved on the destruction of the pontoon equipage, and there were besides, two forges and two wagons of charcoal.

As time did not admit of cutting down trees and then preparing the wood, the village of Studianka was pulled down for the purpose, and the timber of the houses used for making trestles. The iron necessary for binding them was forged on the spot. By daybreak on the 26th, a considerable number of trestles were completed.

The enemy's posts were now visible on the other bank, and it be-

came important, before commencing the bridge, to know in what force he was present. An aide-de-camp of Marshal Oudinot (Jaqueminot) accompanied by a few troopers, each having a light infantry soldier behind, half swam, half forded the river, gaining with great difficulty the opposite bank. He only found a Cossack post, which he dispersed, and recrossed the river to report to the Emperor.

But information that the enemy was not in force on the other bank was not enough for Napoleon ; he wished to know where he *was* in force, and for this required a prisoner. The same officer again crossed the river with a few more troopers, and pushing forward, surprised an enemy's post, capturing an under-officer. Forcing the latter to mount behind him, he re-crossed the river and took his prisoner to the Emperor. It was learnt from his answers that Tchitchagoff with his main force was still watching the river below Borisov, and that there were only outposts opposite Studianka.

Corbineau's cavalry brigade was now sent across to occupy a small wood on the further bank and cover the construction of the bridge. Forty guns were established on the left bank in support.

Two bridges were now commenced, one for infantry and cavalry, one for guns and carriages. As it was desirable to get infantry over quickly, the smaller bridge was first gone on with. But to fix the trestles the men had to enter the river, and the water freezing round their legs and arms, added greatly to their labour and sufferings. They were without food or drink of any kind, except some thin soup.

The river was here about a hundred yards wide, and required twenty-three trestles to span it. The first bridge was finished about one o'clock on the afternoon of the 26th.

In the meantime Oudinot's Corps had been moved up from Borisov and replaced by other troops from the rear. His cavalry and infantry were now sent across the river, and two light guns were also moved with great care over the small bridge. Oudinot attacked and defeated a detachment from Tchitchagoff's force, and took up a position to cover the crossing.

About four o'clock the same day, the larger bridge was completed and artillery commenced to cross.

In constructing this bridge, time did not admit of squaring the round beams so as to make a smooth roadway. But as the concussions in moving carriages over the unequal surface were likely to create a strain dangerous to the bridge, it was sought to supply a remedy by filling up the intervals with moss, &c. The horses, however, carried this away in their feet, and the strain from the sustained concussions in-

creasing, the trestles, where the bottom was softest, began to yield, and at about 8 o'clock three entirely gave way, precipitating their burthen into the river.

But General Eblé, as soon as the bridge had been finished, made half his men take rest, while of the remainder some guarded the bridges and some set to work to make reserve trestles.

It was now necessary for these men to again enter the river and replace the broken trestles with fresh ones. But it was freezing so hard that the ice had to be broken with axes, and even when broken it quickly refroze. Yet the damage was repaired and the bridge again in working order by 11 o'clock P.M.

About 2 o'clock in the night, three more trestles gave way about the centre of the bridge, where the water was from seven to eight feet deep. The same work of repair had again to be gone through, which taxed to the utmost the energies of the half-frozen and more than half-famished workmen. By great efforts the bridge was once more made practicable by 6 o'clock A.M. (27th). About 2 o'clock in the afternoon this bridge gave way for the third time, but was, as before, very quickly restored again.

The day of the 27th was spent in passing over the remnant of the different corps as they arrived, while Victor still held Wittgenstein in check. But there remained an immense crowd of stragglers, camp followers, and carriages on the left bank who had yet to cross.

Tchitchagoff had hitherto been completely deceived as to the true point of passage, and was still with his main body about Borisov, watching the lower river.

Wittgenstein was closely following Victor, who was slowly falling back on Studianka.

Koutousov's advanced guard under Miloradovitch had reached Lochniza, and was moving to join Wittgenstein.

To continue deceiving Tchitchagoff, Victor was ordered to leave one of his Divisions (Partonneaux's) at Borisov. With the remainder he took up a position between the latter place and Studianka, covering the bridges.

But Tchitchagoff at length became alive to the true movements of the French, yet he hesitated to attack without the co-operation of the other corps. An attack on both banks was arranged for the following day.

To meet this attack, Oudinot's Corps, with the remnants of Ney and Poniatowsky's, in all about 13,000 men, was to oppose Tchitchagoff who had over 30,000.

Victor's Corps amounting (including Partonneaux's Division) to about 13,000, was to hold in check the combined forces of Wittgenstein, Strengel, and Miloradovitch, about 40,000.

The Old and Young Guard, about 6,000, the Emperor held in reserve at his own disposal.

The remnants of the other Corps were sent forward on the Zembin road to secure those important defiles on the future line of retreat.

But Wittgenstein's and Miloradovitch's movements in pursuit of Victor seriously endangered Partonneaux's Division at Borisov, and on the night of the 27th the latter tried to rejoin Victor through the woods and marshes separating Borisov from Studianka. Taking the wrong road he fell on Wittgenstein's Corps, and the whole of his Division, except about one battalion, was killed or captured.

This disaster reduced Victor's force to 9,000 men, to cover the bridges.

On the morning of the 28th the Russians attacked on both banks.

On the right bank Oudinot and Ney held their ground against Tchitchagoff with varying success, and finally repulsed him.

On the left bank Victor, in a desperate struggle, defeated all Wittgenstein's efforts to drive him into the river or separate him from the bridges. Darkness terminated the battle, and during the night Victor withdrew his whole force, unmolested, to the other bank. Here he took up a position with his guns to continue the defence of the bridges.

About 9 o'clock the following morning the bridges were destroyed, and the French continued their retreat to Wilna.

CHAPTER XVI.

DEFILES.

A 'DEFILE' may be defined as any portion of ground that, owing to local impediments, can only be traversed by troops on a front narrow in proportion to their numbers. The term is therefore a relative one, and dependent on the strength of the force engaged. For a mountain pass affording sufficient fighting front to a small body, may become in every respect a defile to a much larger one.

The importance of a defile in a military sense is that an inferior force holding it may successfully resist a superior one. For the impossibility of engaging more than a certain number of men on either side prevents the stronger from developing its superiority. But this advantage only exists as long as the defence is closely connected with the defile, and when the enemy is compelled to force a passage through it. For could he establish himself at the further side by any other means, the defile, as a defensive position, would clearly no longer exist. Hence its value depends on the impossibility of its being turned.

But every defile *can* be turned if the attacking force diverge sufficiently widely to do so, so that the problem becomes one of space, and therefore of time. But time is so important a factor in attaining success in war, that movements involving its undue extension are thereby rendered impracticable. Moreover, latitude of movement is further restricted in this case by the power of offensive action the defenders may possess. Hence it is accepted as a general principle, that if the movement of the attacking force to turn a defile affords the enemy an opportunity

of acting advantageously against it while so employed, the existence of the turning point ceases to be a danger for the defenders.

The turning point should, however, be in all cases closely watched, and when it is itself a defile it should, when possible, be defended. Neglect of this may render worthless all the advantages gained by a successful defence of the main defile. At Wavre Thielman defeated all Grouchy's efforts to force the defile at the village. But the latter moving part of his force about two miles up the river, crossed by a bridge whose defence had been neglected, and thereby turned the strong position of the Prussians. The disregard of Von Gablenz's repeated request that the point of Eypel, by which his position in front of the Trautenau defile in 1866 could be turned, should be guarded, led to the disaster that befel his corps, though up to then so successful.

In examining the influence defiles exercise on military operations, they may be divided under the following heads :—

1. Those of considerable length whose flanks are closed, but, though difficult, accessible ; such as mountain passes, thick forests, &c.
2. Those of considerable length whose flanks are open but inaccessible ; such as causeways.
3. Those of considerable length whose flanks are open and accessible ; such as hollow roads, railway cuttings, &c.
4. Those of an inconsiderable length, whose flanks are open but inaccessible ; such as bridges.

The object for which a defile is held mainly regulates the manner of its defence.

It may be held for the use of the defenders.

It may be held simply to prevent the enemy from using it.

In the first case it would be preserved as an outlet to the side holding it for offensive operations, which would restrict the

amount of obstacles that could be created to the enemy's advance. For all artificial aids in the defence should admit of the defenders having free movement through the defile. When it is held simply to prevent the enemy from using it, the passage may, if necessary, be rendered wholly unserviceable.

A defile may be defended from three different positions:—

1. On the side nearest the enemy (in front).
2. In the interior.
3. On the side farthest from the enemy (in rear).

When defended from a position in front, the defile itself adds little power to the defence. Points of support may be afforded to the flanks, but beyond this it is a source of weakness rather than of strength. For a defeat in such a position would be attended with great loss and disorder, and the feeling that it would be so must always have a bad moral effect on the troops engaged. Hence we find that unsuccessful actions fought in such positions have had, usually, singularly disastrous results. But circumstances sometimes require that such positions be deliberately adopted. This would be the case when time was required to enable part of a force still beyond the defile to retire safely through it. At Königshof, in 1866, the Austrians took up such a position to cover the passage of the xth Corps over the Elbe. At Neumarkt, in 1809, Molitor's division advanced to a position in front of the defile to cover the retreat of the Bavarians, seriously compromised in an engagement beyond.

Such a position may be also assumed when it is of extreme importance to prevent the enemy from using the defile, and the ground in rear is not favourable for defence. This was the case when the Prince of Wurtemberg held the passage over the Seine at Montereau in 1814. The ground here was exceedingly favourable beyond the defile, and the only position from which it could be defended.

But though a position beyond a defile attains no force from the defile itself, yet when in close connection with the entrance

it may become one of great strength. This would be the case principally in mountain passes.

The circumstances must be exceptional that would require the defence to be organised from the outset within the defile. But when it is of some length, positions may be found in the interior of such strength as to afford advantages unobtainable at the entrance. And if the defile cannot be turned, and it be important to delay the advance of the enemy through it, these points may be held with good effect, even after the entrance is lost. Of such a kind was the position held by the Austrians in the defile of Podkost, in 1866, to cover the retreat of the 1st Corps from the Iser.

When its flanks are well secured, a small force has certain advantages in a position of this kind, since the front on which it can be attacked does not allow the enemy to make use of his superiority. But on the other hand, if the position is forced the loss in retreating would be made very heavy. But the strength of such a position must greatly depend on the obstacles that can be interposed to a direct advance of the enemy. Hence barricades, abattis, or some such obstructions should be erected, and when a house, field-work, or block-house exists the difficulty of forcing the passage may be made very considerable. In advancing through the defile of Podkost the Prussians had to force two barricades, and then came on a chateau held by the enemy that completely closed the defile. They failed in two attacks on this chateau, and had to retire out of fire and wait till the Austrians withdrew from it of their own account. An old-fashioned hexagon redoubt, held by a battalion with two mountain guns, stopped the advance of a French column of several battalions through the Maïen Valley, in 1799, and the defenders beat off four attempts to carry it. It was only from the loss inflicted by fire from the neighbouring heights, that they were at last forced to retire. The fort of Alley Musjid, about five miles from the Peshawur entrance, was always a formidable obstacle within the Khyber Pass.

A position in rear of a defile is usually the strongest the defenders can assume. It enables them to concentrate from a comparatively wide front a great superiority of fire on the enemy, constrained to advance on a very narrow one. The advantages of the situation are at once apparent, and, theoretically, should be so great as to make it impossible for the attacking force to contend against it. But though experience does not bear this out, yet the forcing of such a position is, as a rule, very costly. The situation is for both sides the opposite of that in front of a defile. For there the fire of the defenders necessarily diverges over a wide circumference, while here it is concentrated from the arc of a circle on the only ground where the enemy can present himself.

The special advantage of such a position must never be lost sight of, namely, crushing the head of the enemy's column in its attempt to issue from the defile. The principle sometimes advocated, of allowing a part of the advancing force to gain the open, with the object of then more effectually destroying it, is too full of danger to be admitted. The energy of resistance of the part so attacked is likely to be increased by the hope of ultimate support from those in rear, as well as from the feeling that the safety of the remainder depends on their exertions. Besides, should their defeat not be achieved as speedily as anticipated, the power of the defenders to impede the advance of the rest will be greatly enfeebled from being occupied with those already outside. This was well exemplified at Nachod in 1866. Here the Austrians neglected to hold the outlet of the defile so as to fall on the head of the Prussian column as it issued. But when the Prussian advanced guard had disengaged itself from the defile, it was attacked by the Austrian 7th corps of four times its numbers. Yet the Austrians failed either to overwhelm the advanced guard or prevent the main body from issuing. That the Austrian commander was not in this case responsible for allowing a part of the Prussian force to establish itself outside the defile does not materially affect what is involved. For the fact remains the same,

however produced, of the danger of allowing the head of a force advancing through a defile to obtain a footing beyond it.

When the defile is short and its flanks open, so that the force defending it commands not only the outlet but also the approaches to the entrance, the strength of such a position is at its greatest.

But it frequently happens that defiles have to be held under circumstances that deprive the defenders of the choice of positions. The most usual case of this kind is when a retreat has to be conducted through a defile. Here it is no longer a question of defeating the enemy with the whole force at hand, but of checking his advance with as small a portion of it as will enable the remainder to pass safely through the defile. In this case the position is of necessity in front. The principle on which such a movement is conducted is to make head against the enemy with a part of the force, while the remainder continues the retreat, the part engaged being gradually withdrawn according as those in rear have cleared the defile. In effecting this, the work will mainly fall on the infantry and artillery, and finally on the infantry alone. For as the retarding force diminishes by degrees, and as the enemy's progress can only be checked by fire, the arm combining most thoroughly fire and movement will in such a case be the most effective.

All the approaches to the entrances should therefore be held by infantry, whose flanks would usually wind back so as to rest on the obstacles creating the defile. Its disposition must entirely depend on the nature of the ground, so that in some circumstances it will form a continued line, while in others the occupation of special points will provide defence for the remainder. Behind this barrier the rest of the force moves rapidly through the defile—the cavalry first, the artillery next, and finally the infantry.

Should the defile be of some length, lateral roads may run into it whose openings are on the side of the enemy. The main body as it passes would usually detach parties up these roads to

hold them until the covering force had fallen back from the entrance. As soon as the main body commences to emerge from the defile it should at once dispose troops to defend the outlet, so as to prevent the enemy from issuing at the heels of the rearguard. The rearguard itself would hold its ground at the entrance at all hazards until the safe passage of the main body is assured. It will then fall back in successive fractions, showing fight to the last.

The mode of withdrawing the force holding the entrance must depend on the manner of the enemy's attack, and the strong points of the ground. Should the enemy attack along the general line of front, and the ground offer no especially strong point for defence, then by commencing the retreat from the flanks and gradually contracting the front occupied, the defence will be best continued. Should the enemy press hard on particular points, then these must be maintained while the retreat is commenced from a direction in which this pressure is not so felt. As, should the enemy break through at the point where he develops most force, then the remainder would be in danger of being cut off. In the defence of the defile of Neumarkt, in 1809, Molitor first covered the retreat of the Bavarians with his own division, and then withdrew this covering force by holding some strong ground on his left flank with one regiment, while the remainder passed through the defile. He then charged the enemy so roughly with this regiment that he arrested their attack sufficiently to withdraw it in turn. So that in this as in all other defensive positions the mode of operating will be such as local circumstances most favour.

Unquestionably great skill is requisite in conducting a movement of this kind, for the resistance must be prolonged sufficiently to ensure the safe passage of the main body ; yet the danger of prolonging it increases with the increasing force of the enemy, and when the retreat begins, the means of checking his advance becomes gradually less. So there is the danger of a moment arriving when the defence may be overwhelmed, and

the whole driven pell-mell through the defile. Thus the delicate point is to know when to retire. Ney, the great master of rear-guard actions, stood just long enough at the Redinha to make that action for ever remarkable ; but staying too long in front of the defile of Foz d'Aronce cost him a heavy and unnecessary defeat.

The principles here stated apply pretty generally to all kinds of defiles, but as there are special points of importance attaching to the attack and defence of each, some of these may with advantage be more particularly alluded to.

MOUNTAIN DEFILES.

In defending a mountain defile where the adjoining heights are difficult to climb and the ground is otherwise favourable, the defence would usually be organised at the entrance. For here the defile itself has considerable attributes for defence. Infantry occupying the heights will command the approaches and secure the flanks, while the mouth of the pass strongly barricaded, closes the entrance. Moreover, if the heights command the pass, which they usually do, the latter cannot be traversed while they are held, so that this forms a position of great strength, and affords favourable conditions for retreat. For a force retreating can only be followed up through the pass according as the heights on each flank are cleared of the enemy. Here the defence will almost entirely fall on the infantry, as guns can but seldom be got on to the heights, and but few used in the pass, where there would be considerable danger in risking them.

But if the enclosing heights do not command the pass, then the strength of the defence should be concentrated in the pass itself, for if that be forced, the enemy can advance freely through the defile, and thereby turn the defence of the heights. If the pass is of some length, secondary defensive positions may be organised in the interior ; and if the valley widens suddenly at any point, this may be defended as the outlet of a defile.

In defending the outlet of a mountain defile, the one point to aim at is to crush the head of the enemy's column as it arrives. For this purpose the heaviest possible fire must be concentrated on the *debouché* and adjoining ground. Here the artillery becomes the important arm, and in it lies the main force of the defence. It would be disposed both to command the pass itself, and to furnish a cross fire on the ground outside it; but the fire of the infantry is only secondary to that of the artillery, and frequently, in mountain warfare, it is on the infantry that the defence will mainly rest. Cavalry may at times be advantageously employed in conjunction with the other arms when the ground admits of its action.

The distance from the outlet at which a defensive position would be taken up will be limited on one hand by the effective range of the weapons at disposal, on the other by the nature of the ground. The more distant the position, the more extensive the circle of fire with which the gorge can be enveloped. The character of the ground may contract this distance unfavourably for the defenders, but it must never be allowed to unduly extend it; so that points advantageous of themselves for defence must be disregarded when a nearer approach to the defile is required for a more effective line of fire. For the object is not to await the enemy's attack in a favourable position beyond the defile, but to act offensively against him from a strong position immediately he appears. The defensive force must above all things be kept concentrated and well in hand. No part essential to a vigorous defence should be beyond reach of taking an active and timely part in an engagement. For ultimate success materially depends on preventing the enemy from gaining an advantage at the outset, as it is by this alone that he can ultimately develop his superiority. Too much dissemination therefore should be carefully guarded against. Its danger is well exemplified in the faulty dispositions for the defence of the defile of Ordal in 1813.

The mode of attacking a mountain defile is pretty clearly indicated by what has been said of its defence. It would be evi-

dently very rash to push a force into the gorge while the enclosing heights commanding it were still held by the enemy. The first part of the attack should therefore be devoted to clearing these heights and even should the mouth of the pass be barricaded, the loss of the heights will entail the loss of the entrance. An attacking force would therefore be disposed, part against the heights and part against the entrance, the latter to act conjointly with the flanking parties, or to follow up their success according as the general situation determines. The flanking parties will always be composed of infantry, while the artillery of the force will be concentrated against any obstacles barring the entrance. After this latter has been forced, the progress of the main body through the defile must be regulated by that of the flanking parties on the heights, who will continue to cover it to the last. This in a few words embodies the whole principle of the attack of mountain defiles :—First clear the enclosing heights of the enemy with a part of the force, then move the remainder rapidly through the pass. Exceptional cases will occur, already alluded to, where the strength of the defence will lie in the pass itself, equally with, or independent of the heights enclosing it. In such cases alone could the heights be neglected. Through the enemy's omission to occupy in force the gorge of the defile of Jugduluk, in 1841, Sir Robert Sale was enabled to force the pass, though his utmost efforts against the heights had already proved unsuccessful.

In attacks of mountain passes the brunt of the work will fall on the infantry, aided at times very effectually by artillery. In moving through the pass the main body should never dispense with a strong advanced guard, composed mainly of infantry. Where the inhabitants are in arms or hostile, a well organised rearguard forms an important part of the dispositions, both for securing the main body and for defending the baggage and supplies from predatory attacks that are sure to be attempted. These are often of a very harassing kind and formidable character, as proved in many of our operations against the hill tribes

in India. Sale's movements in 1841, and Pollock's advance into Afghanistan in 1842, were constantly disturbed by rearguard actions of this kind.

When the enemy has organised his main defence in rear of the defile, similar dispositions must be made in advancing. The heights must be cleared and traversed by flanking parties, to precede and cover the advance of the main body. The latter must move with great caution, being preceded in all cases by a strong detachment of infantry. A couple of guns should follow this advanced party, to aid it in establishing itself at the outlet. They should be rapidly supported by more infantry, followed by more guns, and according as these establish themselves beyond the defile, the main body will move rapidly forward in support.

BRIDGES.

The most advantageous position for the defence of a bridge is usually in rear of it. Circumstances, as before mentioned, may require it to be defended from the enemy's side, but the attendant disadvantages of such a position have been stated. Sometimes a part of a force is pushed forward beyond the bridge when buildings or other cover exists that offers special advantages for retarding the enemy. The danger in holding this advanced position is that, if forced, the defenders may have some difficulty in withdrawing across the bridge, or may be followed so closely by the enemy that the latter may gain the passage. This occurred at Ebersburg, in 1809, where an Austrian detachment, occupying some houses beyond the bridge, prolonged the defence until the French, forcing them, pressed so closely in pursuit over the bridge that its destruction, prepared beforehand, was prevented and the passage seized. Yet if the bridge connects parts of a town or village, the houses on the further side may be so advantageously occupied, both to delay the enemy and deprive him of a good offensive position against the defenders, that they cannot be disregarded. But in this case care should be taken to

provide for the withdrawal of the troops, so posted, without compromising the further defence of the bridge. At Wavre the Prussians at first held the houses on the enemy's side, but, driven from these, the defence was so vigorously continued from the near bank that all the French efforts to carry the passage failed. Should the force be small, it had better be concentrated from the outset in a position in rear of the bridge, and the further bank abandoned. Thus, in the defence of Tauber Bischofsheim, in 1866, the Prussians at first did not attempt to defend the houses beyond the bridge, from the smallness of the force at hand, but when sufficiently reinforced they pushed forward troops to occupy them.

The character of the ground on both banks materially influences the manner of the defence. Bridges are usually associated with a village or town, where the river either borders its outskirts or divides it into parts. A bridge in the centre of a village rests its defence so much on the houses adjoining, that it becomes one of the phases in the defence of the village, and there is little choice about positions. When the river skirts the village and the latter is on the defender's bank, then the defence will still be organised close to the bridge and river bank, every use being made of the adjoining buildings. But when the village is entirely on the enemy's side, and the ground on the near bank comparatively open, the position of the defenders must be removed to some distance from the bridge, else they will suffer heavily from the enemy while still under cover. Similarly, if no houses exist in the vicinity, and should the country on the further bank be undulating, wooded, or otherwise afford cover, the defence must be retired from the bridge, and it is only when the country is very open beyond that the defence will be organised near it. The course of the river itself will sometimes considerably affect the facilities for defence. When bending towards the enemy on both sides of the bridge it offers greatest advantages to the defenders.

The efforts of the defence would be directed to sweeping

with fire all the approaches, and then concentrating this fire on the bridge itself. When a close defence is attempted, this fire is maintained by both infantry and artillery, the former lining the bank and occupying the houses, if there are any. At the action of Wavre the bridge over the Dyle, near the village of Bierge, was defended by two companies lining the banks and occupying a mill on the defender's side, supported by a battalion, with a battery in action on the slope in rear. This combined fire swept the approaches with such effect that repeated attempts of the French, led by Gérard and Grouchy in person, failed to force the passage.

When a position has to be taken up at some distance, the fire will be more particularly directed to preventing the enemy from debouching from the bridge. Artillery fire will aid powerfully in achieving this. At the action of Tauber Bischofsheim, in 1866, the Austrians concentrated a heavy artillery fire on the bridge at a distance of 1,200 yards and made the passage so impossible while it lasted that part of the Prussian infantry, who had gained a footing on the further bank, could only have their ammunition replenished by its being carried *through* the river, which was with difficulty fordable. An artillery fire that sweeps the approaches or commands the outlet is an indispensable requisite to a vigorous defence.

A position of this kind retired to some distance requires the force employed to be considerable. Its general disposition will be similar to that for a mountain defile. Should the force be small a distant position would be unsuitable from its general weakness, and in such a case a close defence must be undertaken.

The attack of a bridge, defended in this manner by modern fire-arms, would appear to be an undertaking very difficult of success. And considering the heavy loss always incurred, even with the old weapons, and the frequent failures encountered, the enterprise must be regarded as of the most formidable. Hitherto the principle of attack has been, to first subdue more or less the

fire of the defenders by artillery and light troops, and then to assault the bridge itself with a strong column of infantry formed on a front equal to the width of the passage. The assaulting column was advanced as much as possible under cover, yet even this did not save it from very heavy loss. Yet it cannot be hoped that the enemy will renounce the defence without an engagement at close quarters, but the fire of the attacking force must have effectively reduced that opposed to it before an assault can be attempted with much hope of success. It is now, therefore, more than ever necessary to subdue the enemy's fire before the bridge can be attacked by infantry.

When the ground is open on the assailant's side this work will mainly fall on the artillery. When cover admits of the approach of infantry it will be pushed forward to line the banks or occupy any shelter afforded, and co-operate by its fire with the artillery. The assailants have the advantage that, unless the ground be very unfavourable, they should be able to concentrate a superior artillery fire against that immediately defending the bridge. And should this fire prevail, the strong arm of the defence is thereby paralysed. Yet disadvantages of position will often occur to neutralise superiority of armament. At Ebersburg Massena's artillery had little effect against the Austrian guns, from the relatively commanding position of the latter.

The assault, once entered on, should be prosecuted with the utmost resolution and rapidity. Hesitation or half measures are likely to entail quite as much loss as a vigorous onslaught, with the almost foregone certainty of failure. Should it be successful it must be rapidly supported, and the energetic action of all three arms will usually be required to prevent the enemy's reserves from overwhelming the leading troops and throwing them back again into the defile.

FORDS.

The defence of a ford is conducted on similar principles to that of a bridge.

The enemy's ignorance of the precise locality of a ford is always a strong point in favour of a force defending a river line. Hence an attempt should never be made to defend a ford from the enemy's side, as he has only to beat the defenders and follow them to discover its whereabouts.

If the defender's intended movements involve a subsequent use of the ford, it should be defended uninjured. If not, it may be rendered impassable by trees, stakes, harrows, or other obstacles.

As the lateral extent of the passage is limited, the dispositions for defence should accumulate a crushing fire on this point.

For attacking a ford the dispositions would be similar to those for attacking a bridge, but the assailants labour under the additional disadvantages of being longer exposed to fire,—

1. In searching for the locality and direction of the ford.
2. From the greater slowness with which the passage can be effected.

The passage should not be attempted until the defender's artillery fire has been considerably reduced, if not silenced—unless when the assailant's superiority is very decisive.

When feasible, some cavalry should be sent first across the stream to open the way for the infantry, as, in case of repulse, they can get back much more rapidly.

Guns should follow in support of the cavalry, and under their joint protection the infantry establishes itself on the other side.

When the stream is rapid, cavalry crossing abreast of the infantry higher up, facilitates their passage by breaking the force of the current.

The limits of depth passable in a ford, are for

Infantry, 3 feet,

Cavalry, 4 feet,

Artillery { 2 feet 4 inches with limber boxes,
3 feet 4 inches without limber boxes.

The usual modes for ascertaining the existence of a ford are—

1. Questioning the natives.
2. Noting the wheel-tracks into and out of the river.
3. Observing if houses exist on opposite sides of the river.
4. Dropping down the river with a sounding line in a boat.
5. Examining the bends or loops of a river where the current is swift or broken.

CAUSEWAYS.

What has been said of a bridge will apply almost equally to a causeway, as the general principles of their attack and defence are similar. But here a position in front of the defile becomes one of even greater danger. For in case of a reverse the retreating force remains longer exposed to a destructive fire from the length of the defile and the openness of its flanks; the prolonged disorder makes rallying more difficult, and support cannot be so well afforded by troops formed in rear. Moreover the opportunity afforded the enemy of following up the defenders removes for him one of the great difficulties of otherwise forcing the passage. The disadvantages of such a position were well illustrated in the Duke of Wurtemberg's attempt to defend the causeway leading to the town of Halle in 1806. This causeway was about a thousand yards long, extending over marshy ground that split up the course of the Saal at this point into several branches, and was flanked by some small woods and islands. For its defence the Prussians posted three battalions in front, deployed on each side, and two guns on the causeway itself.

The French attacked the general front with a line of skirmishers, while a body of infantry in column moved against the head of the causeway and captured the two guns before they could fire a second round. The infantry supporting them was driven along the causeway, and the greater part of the remainder cut off and captured; the French following vigorously at the heels of the enemy, defeated all attempts to restore order or cover the retreat, and not only carried the causeway in this onward rush but the town as well.

A position on the causeway itself has the usual disadvantage of a restricted front without power to manœuvre. It is also liable to a flank and cross fire; if the force be large its strength cannot be utilised in such a position, and a defeat may be made destructive. This was proved on the third day at Arcola by an Austrian column advancing along the causeway against the bridge at Ronco. Headed in front and attacked with fire on both flanks its rout was complete, with a loss of from two to three thousand prisoners. But if the force be small, and be secured from flank fire, it may act in such a position very effectively against a superior one. On the second day at Arcola an Austrian column, moving by a causeway from San Bonifacio against Augereau's flank and rear, was completely arrested by a company of infantry and four guns sent along the causeway to oppose it.

But as with a bridge, a position in rear is here the strongest for defence; it has the additional advantage of having the enemy under fire for a proportionately longer time in his advance, and of being itself further removed from the action of his artillery preparatory to attack. How difficult to force, a position of this kind may be made, was proved by Bonaparte's unsuccessful efforts during two days to force the defence at Arcola.

*EXAMPLE OF FORCING A MOUNTAIN DEFILE DEFENDED
FROM A POSITION IN FRONT OF IT.*

Action of Taufers, March 25, 1799. See PLAN XVIII.

In March, 1799, an Austrian force of 6,300 men under General Loudon was encamped about Taufers in the Munster valley, defending the approaches to Glurns and the Upper Adige.

A French force under Dessolles of about 4,500 strong had fought its way to Ste. Maria in the same valley, and was preparing to follow up its success.

Dessolles' orders were to attack Taufers and reach Glurns. The road from Ste. Maria to Glurns passes through the villages of Munster and Taufers, and thence along a narrow valley by the Rambach stream, which flows through a steep and deep ravine. On the right bank the mountains run down to the river, and their sides are so rugged that it is only possible to advance there by a difficult footpath. On the left the country is more open, particularly between Munster and the stream of Vallarola. At the village of Rawail the valley again closes, and becomes so narrow farther back that the road is forced across the stream at a point where the other bank widens. After continuing along the right bank the road branches in two directions, one leading to Glurns, the other to Laatsch. The mountains overlooking Taufers send spurs towards the Rambach, and their slopes get less rugged between Rawail and Munster. A footpath leads upwards from Taufers along the stream of Vallarola.

The Vallarola and Rambach were at this time almost dry. The bed of the former was deep and rocky, and it was difficult of passage except by the existing bridge. The bed of the Rambach was deep, and so wide that a column of troops could advance along it and be still hidden from an enemy occupying the left bank.

To defend the defile leading to Glurns the Austrians took up a position between Taufers and the stream of Vallarola.

A line of intrenchment was constructed about 150 yards behind the stream, running across the high road and resting its left on the Rambach. This line was flanked by two redouts. A second line of intrenchment ran parallel to the first about 300 yards in rear, and formed an echelon to protect the right flank. It bordered the crest of a ravine, having its right on a rocky slope, and was connected on both flanks with a redout.

But the bed of the Rambach had been altogether neglected : it was neither occupied, swept by fire, nor overlooked from any point. Filled by a mountain torrent it was a strong point to rest a flank on—dried up as it now was, it offered an open road to turn the whole line of defence by.

The defensive force comprised eight battalions and sixteen guns. Four of these, with the guns, occupied the intrenchments, furnishing the outposts and a detachment of 500 men for the heights. The four other battalions were encamped in rear of the second line to the right of Taufers. The heights on each side of the valley were occupied chiefly by organised mountaineers, there being in all about four companies on the right, three on the left, and four more detached into a neighbouring valley. The outposts were about 1,500 yards beyond the Vallarola, watching the road from Munster. There was but one bridge over this stream, and it was covered by a small field-work.

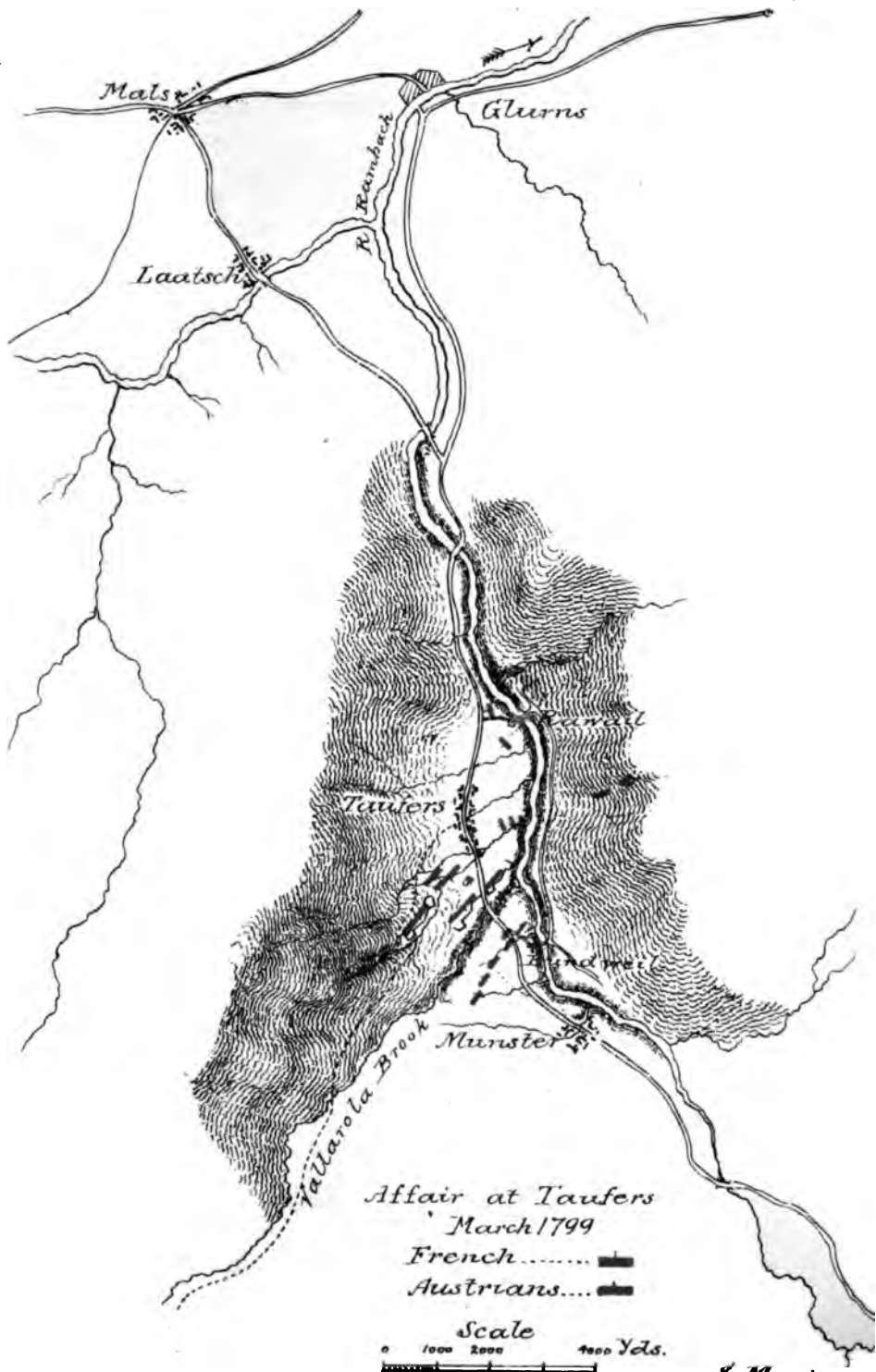
On the night of the 24th of March Dessolles moved with 4,500 men and two guns from Sta. Maria through Munster, pushing forward his right along the Rambach, while he held back his left near the village.

At daybreak the following morning he drove in the enemy's outposts and engaged him along his whole line with skirmishers. At the same time three battalions on the right entered the bed of the Rambach near Bundweil and advanced to turn the enemy's left—three more followed in echelon to cover their inner flank.

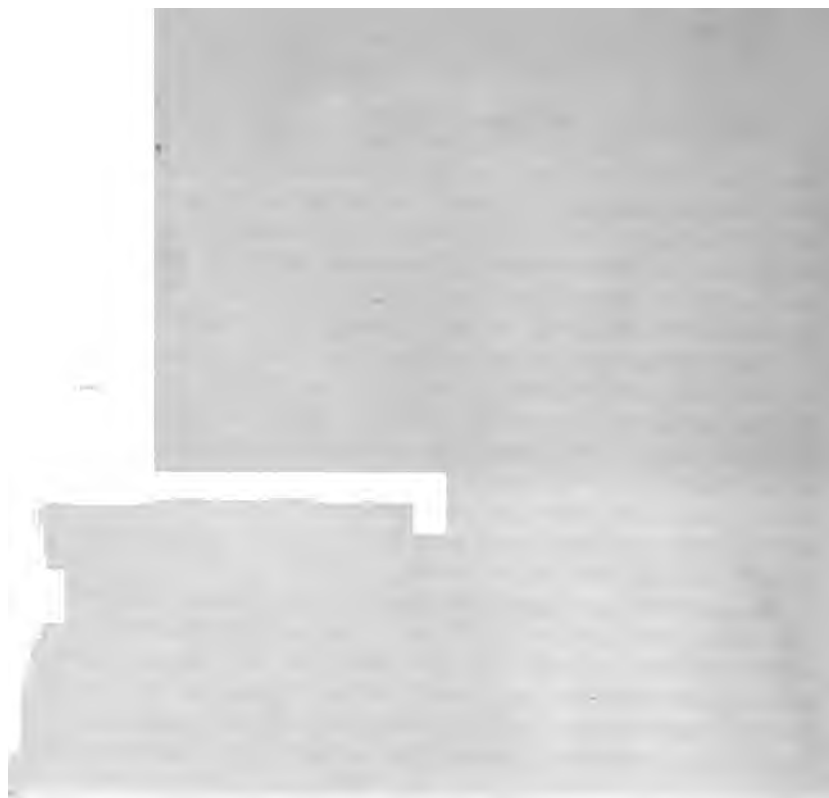
As soon as this turning movement was sufficiently pronounced, Dessolles moved rapidly against the front of the position and attacked the Vallarola bridge, while the turning party issuing from the bed of the Rambach took the enemy in rear, causing universal alarm and disorder. Part of this column carried Taufers, and part moved rapidly on Rawail to intercept Loudon's retreat, sending a strong detachment through the defile on Glurns.

The Austrians were driven from one work after another, and when Taufers was taken the French broke through at all points and dispersed them completely. Loudon, with about 400 men, escaped over the mountains, as did also the light troops posted on the heights. About a thousand were killed or wounded, and the remainder, with the whole of the guns, were taken prisoners.

The dispositions of the Austrians were here so faulty that to this, as much as to the position they selected to fight in, their disaster must be attributed. Their left was made to rest on the bed of the Rambach, which was no obstacle, and yet was neither defended nor observed. It



S. Mart



was in fact itself a defile, and one gun, of which they had sixteen, would have barred its passage. The direct road to Rawail led in rear of the left, yet the reserve was posted behind the right, already protected by the heights it rested on and the fire of the troops occupying them. The mouth of the defile was therefore completely left unguarded, so, the front line once turned, there was nothing to prevent the enemy from seizing it. The outposts were so close that they were useless against surprise, for when they were attacked the main body found itself attacked also. The low ground was the weak part of the position, for though the heights overhung, they did not command, it. This was proved by the troops holding them taking little or no part in the action. The usual rule for attacking mountain defiles was here disregarded, for if the defence of the valley, the easiest to attack, were forced, that of the heights, being turned, would fall in at the same time.

The Austrians took up this position for a contemplated movement against the French, and wished on that account to hold the outlet of the defile. But such a position is at all times one of danger, and their measures for protection were insufficient and ill-judged. For simple defence a position between Glurns and Laatsch, with outposts along the roads leading from these points to Taufers, and the defile itself blocked, would have best effected the purpose of barring the enemy's advance.

*EXAMPLE OF FORCING A MOUNTAIN DEFILE DEFENDED
AT THE ENTRANCE.*

Khyber Pass. See PLAN XIX.

The Khyber Pass is a mountain defile whose eastern entrance is about ten miles west of Peshawur. It is '28 miles in length, and excepting the valley of Lalbeg-gurhu, 6 miles long and $1\frac{1}{2}$ broad, there are 22 miles of pass which can be commanded, and in which there are few places where an army advancing could find cover.' Its entrance on the eastern side is narrow, and the hills on the right and left both rocky and precipitous.

To force the pass General Pollock with a British force advanced on April 5, 1842.

The mouth of the pass was barricaded by a strong breastwork of stones and bushes, and the heights on each side presented great natural obstacles to the ascent of troops. They were strongly held by the enemy, who had for some days previously appeared in great numbers

at the mouth of the pass. These heights not only commanded the approaches to the entrance, but commanded the pass as well, and those on the right were fortified with redouts.

The force at General Pollock's disposal consisted of

- 1 European Battalion.
- 7 Native Battalions.
- 3 Regiments of Cavalry.
- 14 Guns.

His plan for forcing the pass was to first clear the heights of the enemy, and then advance against the entrance.

For this he made the following dispositions.

<i>To attack heights on left.</i>	<i>To attack heights on right.</i>
Advanced party { 6 Companies { 53 Jezailchees	Advanced party 6 Companies
Support . { 6 Companies { 373 Jezailchees	Support . { 6 Companies { 100 Jezailchees
Against the entrance . { 12 guns { About two Battalions (21 companies).	

The cavalry was ordered to be disposed so as to frustrate any attempt at attack by the enemy from the low hills on the right.

The remainder of the force was divided between the baggage, ammunition, &c., and the rearguard.

While the flanking columns were advancing the guns were got into position in front, and shrapnel thrown with considerable effect amongst the enemy.

The right column moved against the heights, its front formed as a line of skirmishers, followed by supports. The enemy offered a determined resistance, but was gradually forced up the hills, and finally driven in at all points. The crest gained, this party wheeled to the left, and moved against some redouts commanding the entrance to the pass. The enemy finding himself turned in this direction, abandoned the redouts, and suffered severely in retiring.

Three companies of the advanced party and the whole of the party hitherto acting in support were now left to hold the heights gained, while the remaining three companies of the advanced party were, according to prearranged plan, moved down towards the pass to drive the enemy from their positions on that side of the road. The enemy made an obstinate resistance at many points, and finally concentrated in considerable force at a bridge within the defile. The three companies

at this point were now reinforced by another. The commander detached two companies round the enemy's left to take him in reverse, and with the remainder attacked him in front. This cleared the bridge, and the enemy gave up all further resistance on this side.

But in this attack the column had met with so much resistance at first, that the General, to aid it, sent seven companies direct against the heights in front. The ground was here so steep and difficult to scale that the men were unable to gain the top, and suffered considerable loss.

The left column had advanced simultaneously with the right, and moved also with a front line of skirmishers. The height on the left was first carried, and then a smaller hill at the entrance of the pass was cleared by the fire of this party.

The part of this column forming support was now reinforced with two companies of the advanced party, and left to hold the heights, while the remaining four companies descended according to orders, to continue scaling and clearing the heights on the left of the road leading to Ali Musjid.

On this side also the enemy had to be driven from height to height, finally concentrating in a position of considerable strength above the bridge. But from this point too he was, as we have seen, ultimately driven.

As soon as the flanking columns had gained possession of the heights, the main column advanced to the mouth of the pass and destroyed the barrier which the enemy had abandoned on finding his position turned. It continued its advance through the pass according as the crowning parties on each side gained ground, and the successful operations of the latter finally put an end to all further opposition from the enemy.

*EXAMPLE OF FORCING A MOUNTAIN DEFILE DEFENDED
IN THE INTERIOR.*

Khoord Cabul Pass.

General Sale made the following dispositions for forcing the Khoord Cabul Pass in 1841.

The information he could gather about the enemy was to the effect that their main body was posted about the middle of the pass, where they had thrown up a strong breastwork. Here it was their intention to defend the defile, holding as well the almost inaccessible heights on either side.

General Sale determined to employ part of his force to turn the enemy's flank and rear by the heights, and to advance with the main body through the pass to attack their front.

He moved in the following order :—

200 Jezailchees along ridges on right flank.

Advanced Guard	{	2 Companies 13th Light Infantry.
		2 Guns.
		2 Companies 35th Native Infantry.
		A Detachment of Pioneers.

Main Body . .	{	Remaining Companies 13th Light Infantry.
		" " 35th Native Infantry.

The information about the enemy proved to be correct. He had constructed a breastwork across the valley and was holding the rocky heights on either side.

2 Companies 13th Regiment	{	Were sent against the heights on both sides, and gradually succeeded in forcing the enemy back.
1 " 35th Native Infantry		

The main body and guns were next moved forward against the breastwork, but this the enemy had already abandoned. Yet they still continued to dispute possession of the heights, and kept up a well-aimed fire on the main body in the pass. But the skirmishers pressed steadily forward, scaling the mountain sides, and the enemy gradually abandoned their first position, retiring to the highest ridges and pinnacles.

The main body now moved rapidly through the defile and established itself in a strong position at the outlet. By this time the flanking parties had everywhere succeeded in getting possession of the heights.

*EXAMPLE OF AN ATTEMPT TO DEFEND A BRIDGE FROM
A POSITION IN FRONT OF IT.*

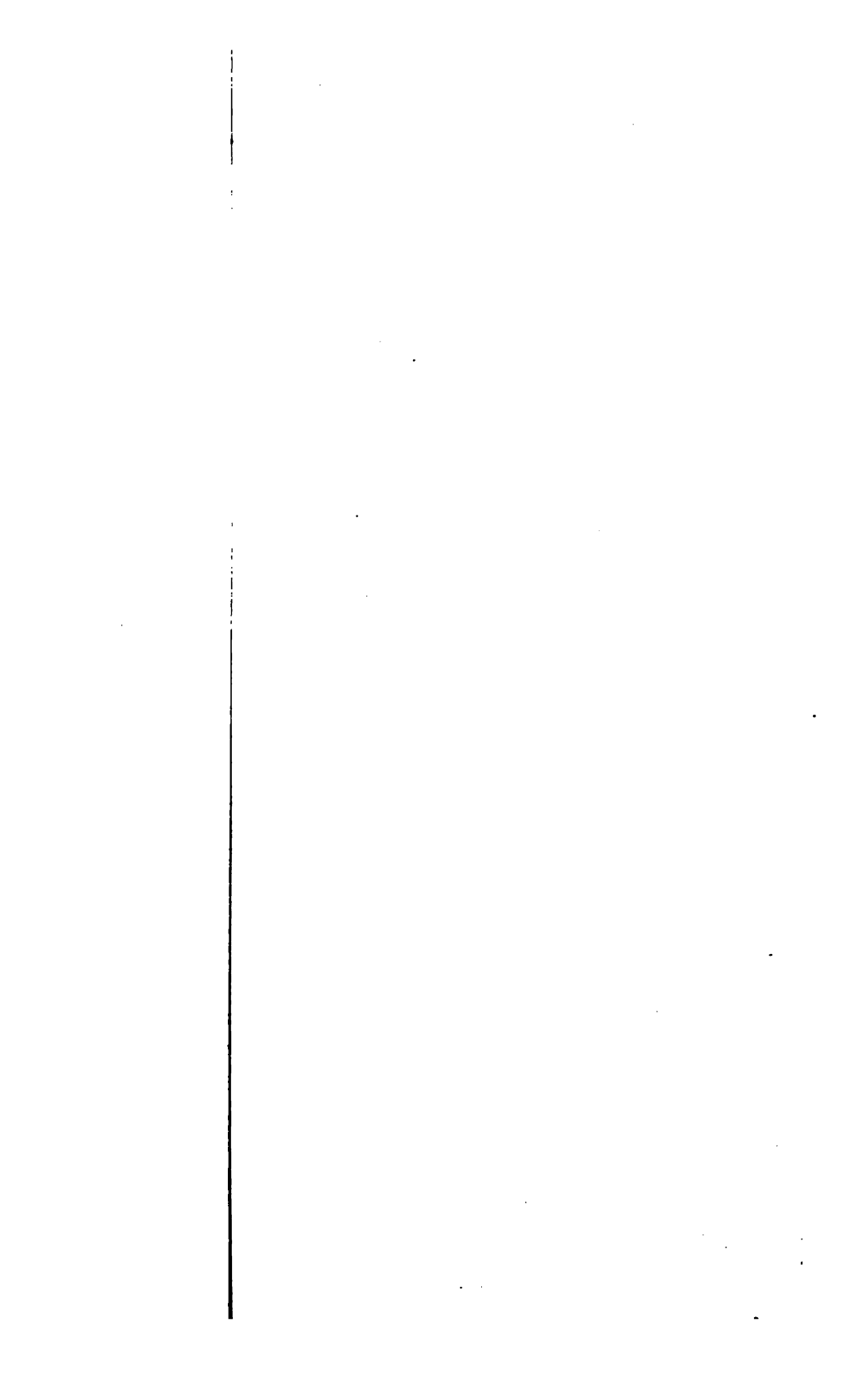
Bridge over the Coa, 1810. See PLAN XX.

In July, 1810, General Craufurd, falling back before the French to the Coa, took up a position on this river in front of the bridge close to Almeida.

His force consisted of

4,000 Infantry,
1,100 Cavalry,
6 Guns.

The position he occupied ran obliquely to the river. The right





rested on some broken ground ; the left on an unfinished tower, about 800 yards from Almeida. But in rear the ground descended precipitately towards the river, forming one side of a ravine through which the river ran, and the bridge was more than a mile distant from the nearest point of the plateau.

To attack him in this position the French advanced with

24,000 Infantry,
5,000 Cavalry,
30 Guns.

Craufurd pushed his guns and cavalry on to the plain, and withdrew the infantry below the edge of the ravine.

The French cavalry and guns quickly obliged those of the British to retire, and their infantry came rapidly on against the centre and left of the position.

A hot infantry fire was soon raging, under which the Portuguese gave way, following the cavalry and artillery towards the bridge.

The 43rd, hitherto held back on the left, now moved up into first line to replace the Portuguese. But the French having all the advantage of numbers, pressed back the British from the edge of the ravine, while their powerful cavalry, charging along the glacis of Almeida, rode down and sabred everything they could reach. This mingling of friend and foe prevented the guns of the fortress of Almeida from coming into action.

‘Then the British regiments, with singular intelligence and discipline, extricated themselves from their perilous situation. Falling back slowly, stopping and fighting when opportunity offered, they made their way down the ravine, tangled as it was with vineyards, in spite of their enemies, who were yet so fierce and eager that even the horsemen rode in amongst the enclosure, striking at the soldiers as they mounted the walls or crumbled over the rocks.’¹

The left wing, hardest pressed and nearest the bridge, arrived there while the right was still at some distance. The bridge itself too was crowded with cavalry and artillery.

A major of the 43rd, seeing the danger to the right wing, collected four companies of his regiment and took post with them on a height covering the bridge. At the same time two more companies occupied some high ground on the left. Though once driven from the heights these companies, by a most vigorous resistance and counter attack, succeeded in keeping the French at bay until the right wing had crossed, when they rapidly retired, and passed the river without being intercepted.

¹ Napier.

*EXAMPLE OF DEPENDENCE OF A BRIDGE FROM A POSITION IN REAR OF IT.**Bridge over the Coa, 1810. See PLAN XX.*

When driven over the river Craufurd's infantry ranged themselves in loose order along the side of the mountain looking down on the bridge.

The artillery took up a position on the summit.

The cavalry was moved to watch some fords and a bridge further up the river to the right. For General Craufurd had good reason to apprehend that he might be turned in that direction.

The French skirmishers quickly gathered along the right bank in swarms, and opened a sharp fire, while the artillery on both sides again came into action. The river, which had been rising, was now unfordable.

Soon a dense column of French infantry advanced to the bridge which they tried to clear at a run.

The steepness of the ravine seems to have at first affected the fire of the British, for it did not begin to tell until the French had passed two-thirds of the bridge. But then 'the whole leading French section fell as one man.' 'The column still pressed forward, yet could not pass that terrible line—the killed and wounded rolled together until the heap rose nearly even with the parapet—the living mass behind melted away rather than gave back.'¹

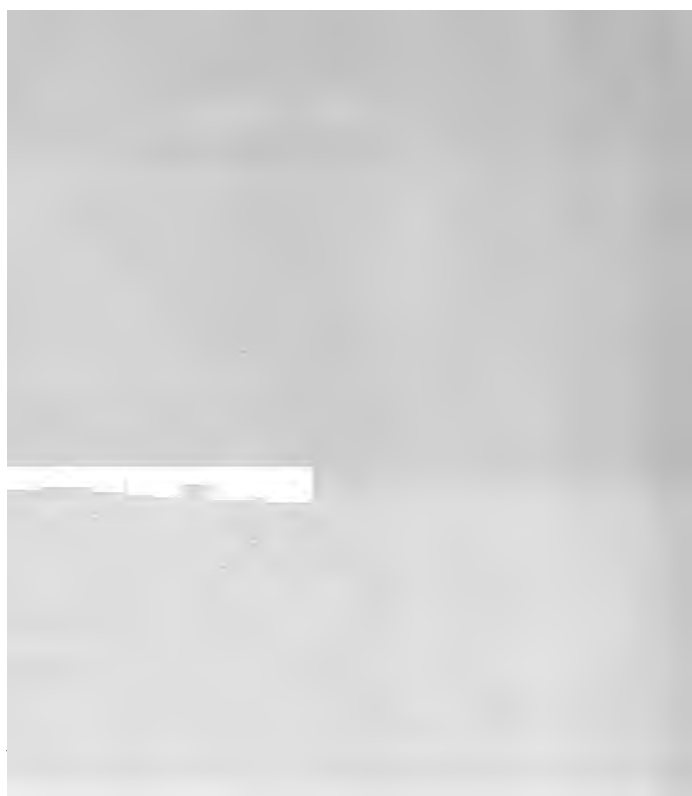
In half-an-hour after this repulse another still stronger column repeated the attempt, but this time it only succeeded in getting half-way across. A third attempt met with similar success. A desultory fire was kept up for some time longer, when all further attempt to force the passage was abandoned by the French.

*EXAMPLE OF FORCING A BRIDGE DEFENDED FROM A POSITION IN REAR OF IT.**The Bridge of Lodi. See PLAN XXI.*

In the Campaign of 1796, in Italy, the Austrians under Beaulieu, after a succession of defeats by the French, were first forced across the Po, and finally driven back on the Mincio.

¹ Napier.





In retiring over the Adda, Beaulieu left about 10,000 men under Sebottendorf to defend the bridge over that river at Lodi.

Lodi was a small town surrounded by a high wall, distant from the bridge about 200 yards.

Sebottendorf placed one battalion and two squadrons in Lodi, and, with the remainder, withdrew to the other side of the river.

Bonaparte, having crossed the Po at Piacenza, pushed on in pursuit of Beaulieu with the Divisions Augereau and Massena.

His leading troops drove the small Austrian force out of Lodi and across the river, but their further advance was checked by Sebottendorf's attitude at the other side.

On finding Lodi occupied, Bonaparte at once argued that the bridge had not been destroyed. So pushing rapidly on, he himself, under a heavy fire, placed two light guns in position, to enfilade the bridge and prevent the enemy from blowing it up.

As more guns came up a heavy cannonade commenced on both sides.

Bonaparte determined, after his troops had a couple of hours' rest, to storm the bridge.

To defend it Sebottendorf had placed three battalions and fourteen guns in first line, holding five battalions and six squadrons in reserve.

To storm the bridge Bonaparte formed the grenadiers, about 4,000 strong, into a close column. They were drawn up behind the wall of the town running along the river, until the moment arrived for them to move against the bridge.

This column was to be supported by Massena's Division.

The mass of the cavalry was sent up the river about a mile and a half, to cross by a ford and fall on the flank of the Austrians.

The fire of the whole of the disposable artillery was concentrated on the Austrian guns enfilading the bridge.

The islands in the river were occupied with French skirmishers.

The bridge was about 200 yards long and very narrow. It rested, about a third of the way from the French side, on a sand-bank.

At a given signal the column of grenadiers moved from behind their cover and pushed rapidly on to the bridge.

The whole of the Austrian guns at once opened on them with grape, and under this crushing fire the column staggered and showed signs of falling back.

Alive to the danger of a moment's hesitation, Berthier, Massena, Dallemagne, and Ceroni rushed to the front to lead their men on.

Some soldiers perceiving that the water shallowed towards the other

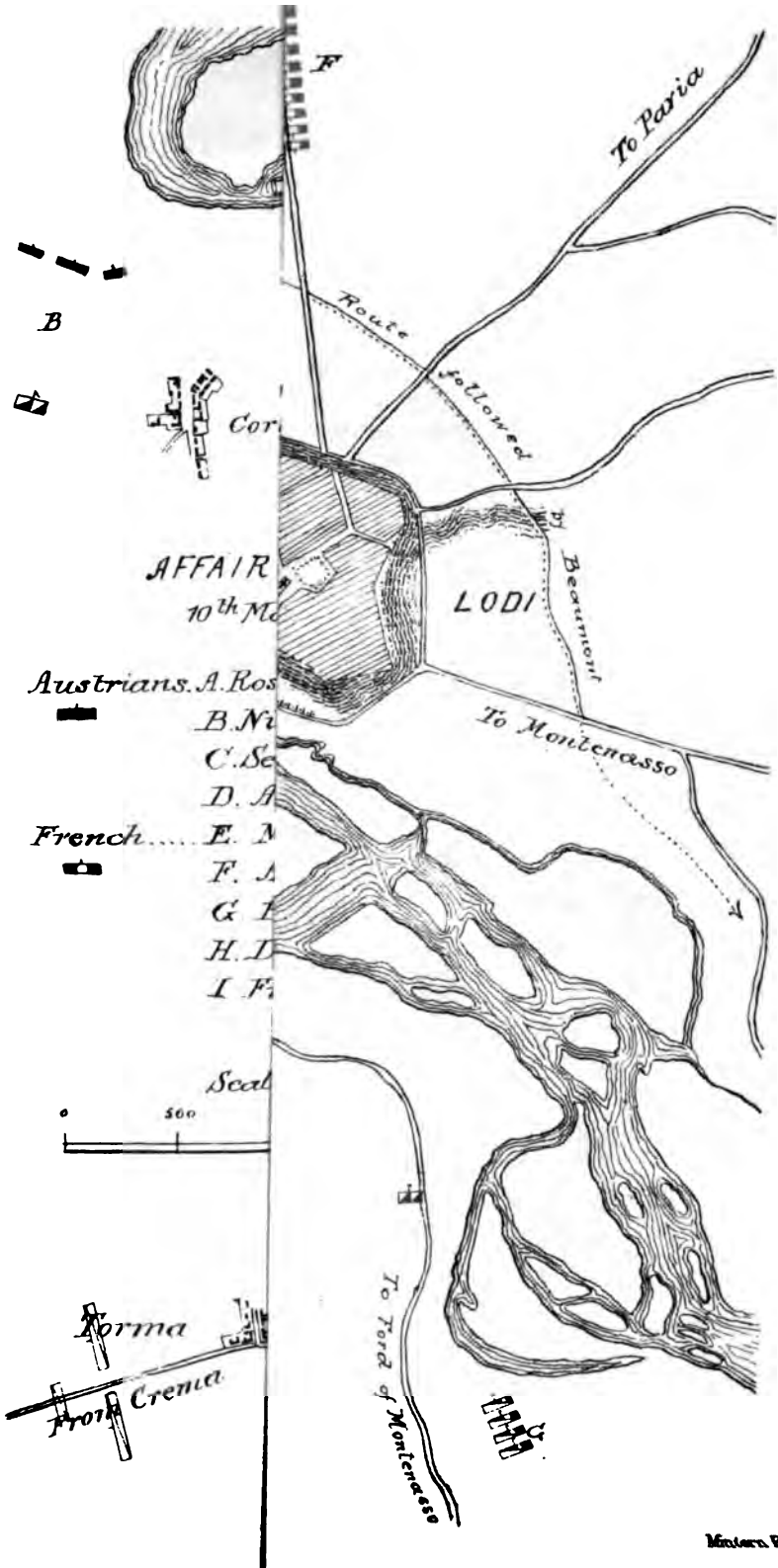
side, slid down to the sand-bank in the river, and, followed by others, waded across, and advanced in skirmishing order against the enemy.

The column on the bridge again pushed forward at the double, overthrew Sebottendorf's first line and captured the guns.

At the same time a body of 300 cavalry swam the river, charged the enemy, and took two guns.

The Austrians now fell back, leaving the French in possession of the bridge.

The French lost over 200 men on the bridge alone.





CHAPTER XVII.

VILLAGES.

VILLAGES, from the shelter they afford troops occupying them, and the obstacles they oppose to an attack, are constantly made use of as material aids in defence. They may be held either as independent posts, or as forming part of a general position. Of the first kind would be a village closing the entrance to a defile, commanding a passage over a river, forming a connecting point in a circle of investment, or blocking an important line of communication. As a prolonged resistance would be usually required from a post of this kind, special dispositions would have to be made for strengthening it, so as to convert it as far as possible into a miniature fortress. On the other hand, for a village connected with a position in which an army accepts battle, nothing beyond what limited time and means allow can be attempted in artificially adding to its power of defence.

But such points in a line of battle are often of great importance either in covering the front, supporting the flanks, or as strong points within the position.

Fuentes d'Onor, Aspern, Essling, and Möckern are instances of villages affording most valuable flank support. Hassenhausen at Auerstadt, Aderklaa at Wagram, and Preuss Eylau at the latter battle, were central points about which each of these battles pivoted. Lutzen, Ligny, and Noisseville were mainly battles of villages.

Before entering on the defence of a village it should be clearly understood whether it is required to be held to the last, or simply as a means of retarding the enemy. In the latter case

the exterior line of defence beyond the village would have at first most attention paid to it ; in the former, the exterior and interior defence would almost equally engage attention. But in both, a strong exterior line is of primary importance.

Certain points influencing the dispositions for defence would have next to be noted.

1. The character of the neighbouring country, and to what extent it commands or is commanded by the village.

2. The nature of the ground in the immediate vicinity of the village, and how far it is conducive to an external line of defence.

3. The interior of the village, chiefly as regards the construction and disposition of the houses, and their eligibility for being rapidly made defensible.

4. The time and means disposable for erecting defences, as well as the number and nature of troops available for holding them.

These latter points are of special importance. The work to be done should be carefully gauged on the time and means at hand for doing it, else elaborate schemes only half completed will result in universal weakness. Further, no defence should be undertaken that the troops available are not suitable for garrisoning.

The first thing to provide against is a sudden attack of the enemy, so that the work of defence should begin on the exterior line. This is usually formed by the hedges, garden walls, and other enclosures that generally exist on the outskirts of a village. Weak points in this line must be strengthened, and artificial entrenchments erected where its continuity ceases. If the existing line be irregular, it may thereby provide of itself sufficient means of flank defence ; but if not, its course must be so altered as to obtain it.

As the advantage to the defenders lies chiefly in the exposure of the assailants in their advance, the ground to the front should give a clear view of, and afford no cover to the attacking force.

Passage of the Po 1796





Should such exist, it must be removed as far as time and means allow. In their second attack on the village of Ligny the French, taking advantage of standing corn, concealed their approach so effectively that they gained the outer line of defence before their advance had been perceived. Similarly, obstacles that run parallel to the front, such as walls, thick hedges, &c., should be levelled, else they afford successive positions of shelter to the enemy in carrying out his attack. On the other hand, obstacles running perpendicular to the front serve to separate his force and disconnect his movements.

Houses beyond the exterior line will, if not too distant, often afford strong points of defence, especially if situated near a main approach, for they cannot be passed by, as the troops holding them would take the assailants in flank and rear, while if the latter delay to attack them, they come under fire from the village as well. The hameau of St. Amand was a point of this kind. It formed the key to the two villages of St. Amand and Le Haye, and its possession was desperately contended for throughout the battle. But if not affording decided advantages to the defence, a house of this kind had better be levelled, for, if captured by the enemy, it would afford him an important lodgment for further operations against the village. A large building called the Gareaux-Bœufs, situated about 500 yards beyond the outer line of defence of Choisy le Roi, was held by the Prussians as an advanced post to that village during the siege of Paris. It was solidly fortified and connected with the village by a trench; but the French captured it in two successive sorties, and when it again fell into the hands of the Prussians they destroyed it.

The approaches from the enemy's side should be blocked by abattis, and, when time and means admit, streams, ravines, marshes, &c., in the neighbourhood of a village may be converted into formidable obstacles.

Between the outer line and the village itself, any obstacles or cover that exists should be utilised towards delaying the enemy's progress should he succeed in forcing the outer line.

Walls that have been loopholed or crenelated, afford material aid of this kind. In the attack of the village of l'Hay, on September 30, 1870, the French infantry was brought to a stand before a loopholed wall, against which it was impossible to get them to advance. In another attack of the same village, on November 29, they gained an entrance on its left, but were completely arrested by the loopholed wall of a park skirting the village on the other flank. In an attack on the village of Thiais, a French battalion drove the enemy from two loopholed walls, capturing two guns, but, stopped by a third wall similarly defended, they were in turn attacked by the enemy and driven back again. In the attack of Chatillon, on October 13, the French were considerably delayed by a succession of loopholed walls, which enabled the enemy to collect reinforcements and finally to drive them out again.

The entrances to the village should be closed by barricades, and these made strong enough to resist a certain amount of artillery fire. Earth, stones, and beams bound together, make the best construction of this kind. A barricade should be made in two parts, so as to enable the defenders to retire through it, or issue for a counter attack. This is found to suit better than making a passage through the buildings against which it rests. It should always be provided with flank defence, which can usually be done by arranging its direction so as to bring it under fire of the neighbouring houses. The entrance of streets on the enemy's side, as well as advantageous points within the village, where the enemy would be delayed under fire from different directions, are the most suitable for barricades.

The houses themselves should next be prepared for defence, particularly those commanding the outer line. For if this is captured it may in turn afford shelter to the enemy, as was the case at Aspern in the natural breastwork that ran round that village. The houses lining the main communications should, as far as possible, be loopholed, as while they are held it is impossible for the assailants to make progress. For each house must

be carried and cleared of the defenders before the advance can be continued. This becomes all the more necessary if the further end of the street is closed by a barricade or breastwork ; in this way the defence of the village of Möckern, near Leipsig, was prolonged and made very costly. Similarly, in the French attack on the village of Chatillon, on October 13, 1870, a solid redout erected near the church made it necessary to advance from house to house by sap, causing a delay that enabled the enemy to bring up sufficient reinforcements. Communications should be established between the houses occupied, to enable the defenders to circulate freely and withdraw from them in succession if forced by the enemy.

A citadel forms an indispensable part in the dispositions for defence. When a village is occupied in connection with a position, it is usually a point of such importance that its possession must be maintained at any cost. Hence it follows that villages have been won and lost several times over in the course of a battle. But though the defenders may be driven from all other parts, yet if a footing be retained in some strong building or entrenchment, this greatly facilitates the work of recapture. Thus in all fiercely contested fights for villages some prominent building, such as a church, hotel, chateau, or convent has been utilised with great advantage for this purpose. In the desperate two days' struggle at Aspern, in which that village was several times captured and recaptured, the church was made in turn to act as a citadel for both sides. It was almost the only part of the village left in the possession of the Austrians at the end of the first day's fighting, and after again changing hands on the second day, the Austrian commander finally ordered the wall of the yard to be pulled down and the church itself burnt, to deprive the French of its shelter if they again recaptured the village. Similarly, at Essling, a granary three stories high, built of stone, loopholed and capable of holding several hundred men, served as a citadel. Twice, on the second day of the battle, the whole of the village, except this granary, was carried by the Austrians, and each

time they were again driven out of it. In a third attack they forced their way through the village to the foot of the granary, firing and thrusting their bayonets through the loopholes, and though the top of the building was set on fire the defenders still held out, and the Austrians were once more driven from the village. Similarly, the churchyard at Fuentes d'Onor, the chateau at Ligny, the large building connecting St. Amand with Le Haye, and the iron foundry at Stiring Wendel, formed important strongholds in the struggle for those villages.

The citadel should therefore be made the strongest point in the defence. It should not be commanded by any other buildings; if such exist they should be pulled down or sufficiently lowered. Its defence should be made complete in itself, so that if its garrison be cut off, it may still hold out till relieved. Its importance will be increased in proportion to the command it exercises over other parts of the village. Thus the church at Aspern commanded the different lines of communication running through it.

This disposition will establish three different zones of defence: the exterior line or outskirts, the village itself, and the citadel. Free communication should exist between these parts, as well as free lateral communication within each. This is indispensable, both for rapidly reinforcing special points and moving against bodies of the enemy that may have forced an entrance. At Aspern, while the 24th French Regiment was engaged with the enemy in front, it was taken in flank by one of his columns from a neighbouring street. But another French regiment, acting in support, made a detour, and, falling on this column, took two battalions prisoners.

If the village is sufficiently large, it may be advantageously divided into districts for defence. In this case, lateral communication between different districts had better be cut off, else the fall of one would thereby expose an adjoining one to be turned; but free communication to the rear should be carefully preserved in each.

For the disposition of troops in the defence of a village, nothing beyond general rules can be laid down. No two villages are exactly alike, and the configuration of each will materially influence the manner in which it is occupied. An unvarying principle, however, guides the general arrangement in all cases, and it is by the moulding of this to fit the special requirements in each, that a good disposition is arrived at. Broadly, then, the troops will be disposed in three parts: one to guard the exterior line of defence, the second in support to this line, and the third as a reserve. There may, in addition to the supports to the first line, be special reserves for the further security of particular points, but their necessity will depend on local requirements in each case; there should be always a separate garrison for the citadel.

In the case of hastily and partially fortified villages, that we are now more particularly considering, the success of the defence will greatly depend on the preservation of the exterior line of entrenchment. For that once lost, the advantage of dealing with a completely exposed enemy is lost also, and moreover the combat becomes in every way more equalised, once it gets transferred within the village. This fact was made very prominent in the village fighting in the latter part of the war of 1870-1. For it is admitted that the natural quickness of the Frenchman counterbalanced, in work of this kind, the inferiority of his training, and once within a village he was quite a match for his opponent. This special national aptitude for particular kinds of fighting is a well established fact, and the skill of the French soldier in combats of localities is dwelt on by Napier in his description of the struggle for the village of Fuentes d'Onor.

It follows from this, that the strength of the defence should be concentrated from the outset in the exterior line. This means that as powerful a fire as possible should be here developed. But in bringing the largest number of rifles to bear, the other point must be equally carefully observed, not to crowd together more men than can find free space to use their rifles. For every man

unnecessarily exposed to fire produces a practical diminution in the chances of ultimate success.

Certain points in a defensive line either afford from their position increased advantages to the attacking force or contain in themselves sources of comparative weakness. Special measures should be taken for strengthening such points by fire. Thus a systematic regularity in the disposition of troops should not be so much aimed at as the development of fire at localities deemed to be the most vulnerable. So that here, more even than in other situations, it is impossible to lay down rules for disposing men by the yard, as nothing but the intelligence of the commander can decide why this spot should only have two men, and this other, of equal extent, twenty.

The cover afforded by the exterior breastwork will usually be bullet proof, but will seldom give protection against artillery. In this case the defender's infantry may avail itself of any neighbouring cover while the enemy's artillery is preparing the attack, moving out to line the breastwork as soon as his infantry advances. At Ligny the Prussian infantry appointed for the defence of the exterior line of that village remained under shelter of stone walls, hollow ways, and banked-up hedges while the enemy's artillery was in action, and only advanced to the outer line of defence on the approach of his infantry. A similar course was adopted by the Prussian infantry against French sorties from Paris in 1870-1.

The supports to the front line will be at a convenient distance in rear, and as a rule, under cover. They must not be too distant, as, if the enemy gains an entrance, the counter attack should be prompt as well as vigorous. If the resistance along the outer line be prolonged, and the casualties numerous, the supports will have to move forward to fill vacancies. They will usually be disposed in several bodies for convenience of movement, but each should be kept as far as possible collected. Their general position would be, when this accords with their obligations to the front line, close to the entrances to the village, for these are

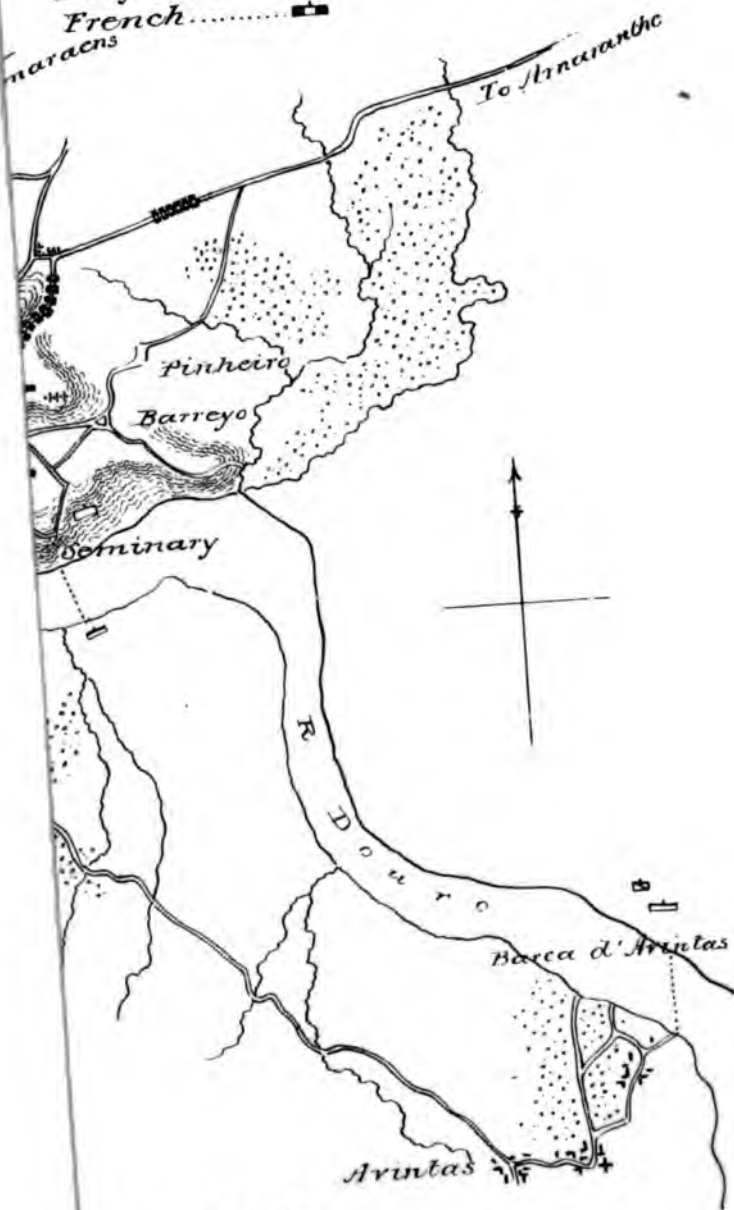
Passage of the Douro
12th May 1809

English.....☐

French.....☐

Maracens

To Almeida



Scale

1 Mile





points that must be ultimately gained by the attacking force, to be successful ; but the immediate concern of the supports is to sustain the front line.

The reserve will usually be at some central point, within, or in rear of the village ; its duty will be to intervene actively in the fight if the troops in front are failing to hold their own, to cover the retreat of these troops if driven back, or to occupy, with a view to defence, some interior line within the village. When taking up a position to cover a retreat, it will best do so in the neighbourhood of the citadel, for while that is held, it is impossible to pass it by, so that a direct advance at that point becomes difficult. The first attack of Pirch's Brigade to recapture St. Amand Le Haye, at the battle of Ligny, was successful until stopped by a large building, which all its efforts failed to capture. The French, rallying round this building, finally drove their opponents again out of the village.

But as the possession of villages forming part of a line of battle is usually of the last importance, additional troops are often posted behind them as a further reserve, to be drawn on if necessary. At Ligny, part of Steinmetz's Brigade was disposed behind St. Amand, and when the three battalions holding that village were driven from it, it was at once retaken by four battalions from this reserve. Similarly, at Leipsig, the village of Probstheida was only occupied by a few companies, but the point was of such importance that the whole of Victor's Corps was massed in rear of it. On this account free communication should exist between a village and the position in rear from which it would draw support.

The best position for artillery is on, or in rear of the flanks, when the ground admits of its sweeping the whole of the approaches. Placing guns along the front line of defence is, as a rule, to be avoided, unless the village is situated on commanding ground or affords unusual facilities for withdrawing them. For when so placed they are very liable to capture, and though the

enemy may not have the means of removing them before the village is retaken, yet he may render them unserviceable.

The great increase of range in modern artillery now gives such freedom in selecting positions that it will seldom happen that guns cannot be placed with even more advantage outside a village than in it. The Prussian artillery for the defence of Ligny was posted outside the village on each flank. At Leipsig, the villages of Wachau and Probstheida were defended by artillery on the flanks. At Noisseville, in 1870, the Prussian artillery took post in all instances outside the villages.

If, in exceptional cases, it be deemed necessary to place guns within the defensive line, they should be invariably covered by an earthwork, and shelter provided for the horses. As only a few guns can be usually thus disposed, their fire should be reserved until the closeness of the enemy's infantry will have silenced, by masking, his artillery; for it is against the attacking infantry that any effect can be hoped from them, and if their position is disclosed while the enemy's guns can act, the latter will invariably be employed to crush them.

The village may be so situated that it would be necessary to dispose the artillery in rear of it. Thus, at St. Amand the batteries for its defence were drawn up on some high ground behind it, for the village was situated in a hollow. Though it would be a great mistake to forego the use of guns by posting them behind a village solely to cover the retreat of the troops defending it, yet their action under such circumstances would be very effective. Twice after the French carried the village of St. Amand were they completely stopped from issuing from it by the guns posted in rear above alluded to. At the same battle, a battery posted behind Le Haye was of great service in checking a successful advance of the French.

The attack of a village resolutely defended always entails great loss on the assailants; such attacks therefore should, when possible, be avoided. But a village becomes usually such an important feature in the defence, that it can rarely be disre-

garded by the attacking force. Hence some measures become necessary for depriving the enemy of its possession, or neutralising his action while he retains it. The character of the neighbouring ground sometimes admits of a village being turned, and this movement will either compel the enemy to evacuate it through fear of being cut off, or result in his capture if he persists in remaining in it.

The village of Pratzen, at the battle of Austerlitz, is a good instance of a village being turned in this way. It lay in a hollow, on ground sloping towards the assailants. The French infantry, avoiding the front, ascended the high ground on either side and attacked it in rear, taking its garrison prisoners. But a skilful commander would not occupy a village so disadvantageously situated, so opportunities of this kind are not often afforded.

When a village cannot be turned, the troops occupying it may be held in check while an effort is made to force some other part of the line. It is difficult to account for why such a course was not adopted at Essling. The two villages against which the Austrians expended all their efforts for two days were an English mile apart, and during the whole of the first day the interval was defended solely by cavalry. The great superiority of the assailants made the attack quite feasible, and a success against their centre would have been ruinous to the French. It seems also difficult to justify the costly attack of the Prussians on the town of Wissemburg in 1870. For the movement against the high ground in rear, already being successfully carried out, would, when completed, have made the town untenable.

But the increased range of modern fire-arms has augmented the difficulties of turning a village, or passing it by when the features of the ground do not specially shelter such a movement. The prolonged struggle for Stiring Wendel at Spicheren, and for the villages of Faily, Servigny, and Noisseville at the latter battle, are instances amongst many others of this.

When a village can be neither neglected nor turned, it may be set on fire with shells. But this is an extreme measure, to be adopted only with deliberation, for the flames that expel the defenders will also impede and perhaps disorder the assailant's advance. We had an instance of this at the Alma in the village of Bourliouk, set on fire by the Russians. Moreover, such destruction will deprive the attacking force of what might have become an important support in prosecuting their advance.

The attack of a village should be well prepared by artillery. This is an unvarying rule. The artillery fire of the defence must be greatly reduced, if not silenced, else the attack by the infantry will be most costly and doubtful. The tendency to precipitate the action of the latter must be guarded against, for the results are otherwise likely to be disastrous. At the battle of Leipsig, the village of Wachau, held by the French, was defended on the flanks by artillery amounting to about 50 guns. It was attacked by the Prince of Wurtemberg's Corps, whose artillery consisted of 24 guns; these latter were quickly silenced, and the attack of the infantry defeated with great loss. At the same battle, the village of Probstheida was similarly defended by strong batteries placed on sloping ground on each flank, and the village itself held by infantry of Victor's Corps. It was attacked several times in succession by the 2nd Russian Corps and two Prussian brigades. All these attacks failed, with great loss, caused especially by the enemy's cross fire in advancing and falling back again.

All the French efforts against the village of Servigny, at the battle of Noisseville, failed until the Prussian artillery covering it had been forced to retire. On the second day of this battle three Prussian attacks on the village of Noisseville were defeated with great loss, through the defence not having been sufficiently shaken by artillery. But the Prussian general recognising this, concentrated the fire of 78 guns on the village and vicinity, silencing every gun of the enemy's that showed itself. After this fire had lasted about an hour, another attack by the

infantry was successful. The effect produced by the fire of some 80 guns on the village of Kaya, at the battle of Lutzen, to prepare the final attack by the French Guard, materially conduced to making that attack so decisive.

In addition to silencing the enemy's artillery, the barricades and other obstacles closing the entrances to the village should be cannonaded. For it is important in carrying out the actual assault that the infantry should be held in check as little as possible by such impediments ; and at that period of the fight the intervention of artillery is rarely possible, and its effect very questionable. In the French effort to recapture Le Bourget, on December 21, 1871, the troops moving against the south side, though they gained the skirts of the village, were arrested by barricades and loopholed walls. Seeing that no progress was likely to be made, General Trochu had a battery brought to bear on these obstructions. Several breaches were effected, but the disadvantage of having to use artillery at this stage was apparent, as part of the shells intended for the barricade, carried further and fell amongst the French troops of another column that had gained a lodgment on the west side. Similarly, in the French attack on l'Hay on September 30, 1870, a loopholed wall so completely barred their progress, that some guns from Hautes Bruyeres had to be turned against it, but the effect was little, as the shells made only insignificant openings, where breaches were necessary.

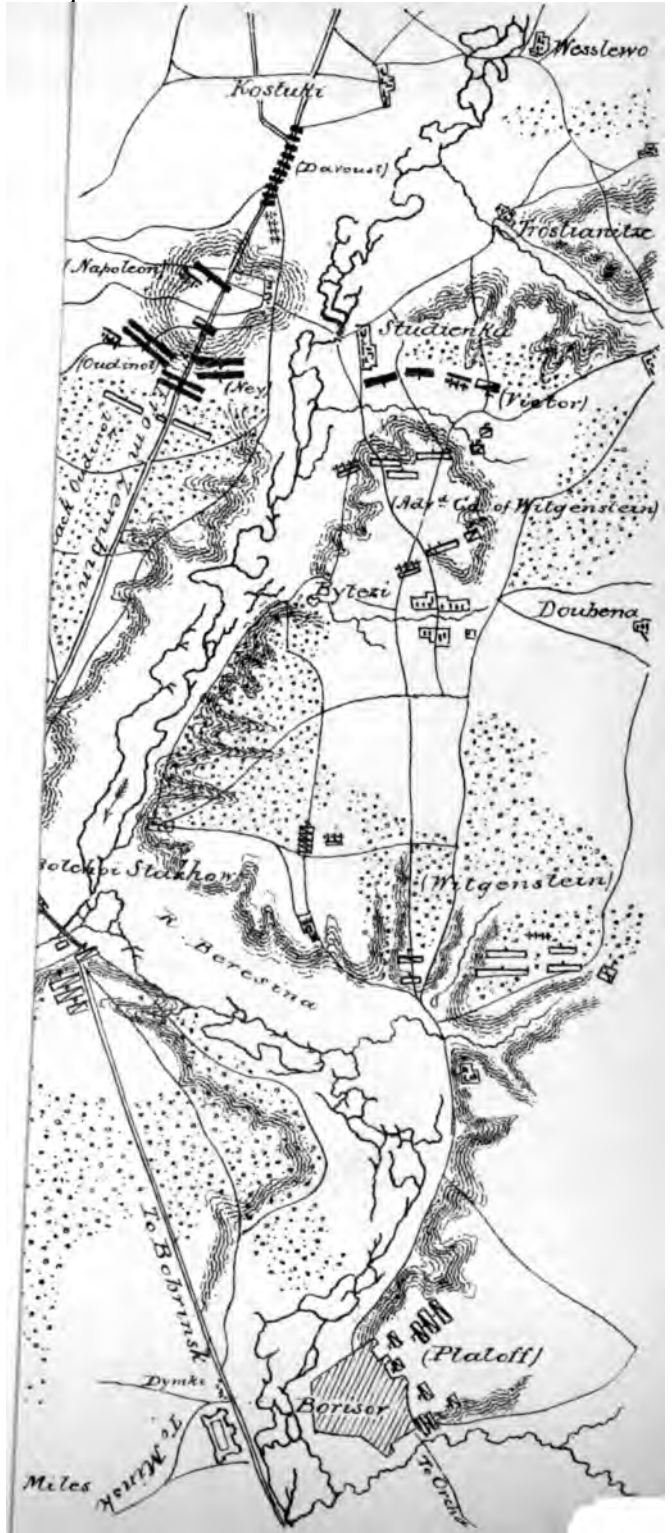
It will sometimes happen that the effect of a well directed artillery fire will of itself compel the evacuation of a village, but this can be by no means relied upon except when the village has been completely set on fire. Notwithstanding the tremendous fire from 78 guns, the village of Noisseville was still held by the French, and the subsequent attack of the Prussian infantry met with the most vigorous resistance. The villages round Paris in the Prussian line of investment were held to the last, though many of them were within range of the forts. Massena's infantry still held Aspern after it had become a mass

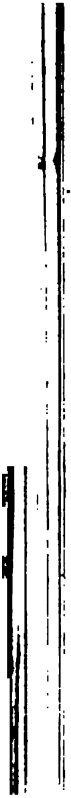
of burning ruins. French and Germans in turn defended Kaya, while the hostile artillery was reducing it to powder.

It is a question whether the greater range of artillery has increased the power of that arm against defended buildings; for, at a limited range, the old ordnance was as effective as the present is at a greater one, and as the old fire-arms admitted of the artillery of the time approaching to a range that was effective, while modern fire-arms compel the present artillery to keep at a much greater distance, the gain and loss seem nearly balanced. There is always this advantage, too, that the nearer, within limits, guns can be brought to the object fired at, the better ought to be the practice. Moreover, some ground does not admit of guns coming into action at long ranges.

But that artillery fire alone can force troops out of a village is possible, and the action of the two batteries of Von Woyna's brigade at Noisseville is a striking instance. For he first silenced the French guns about the village of Montoy, and drove their troops from Flanville and Corey by artillery fire alone, and with a loss to his brigade of only 23 men.

Not then till artillery has produced sufficient effect should the infantry be moved forward to attack. As in the attack of all other positions, so in that of a village, do modern fire-arms require the formations of infantry to be as little dense as possible. The experience of the two last wars has fixed this as a principle, and one all the more to be adhered to from the caution and apparent unwillingness with which the German leaders came to adopt it. For even as late as the attack on Le Bourget by the Prussian Guard, we find the centre column suffering much more severely than the other two from the dense formation adhered to by its commander. The old system of a few skirmishers in front, with columns of attack close in rear, is no longer possible. The outer line of defence, at least, must be broken down by fire, pushed closer and closer until an entrance is effected. For this purpose the front line will be in extended order, with supports either in small bodies, or, if necessary, in extended order too. The reserve





will be kept back as far as may be done without risking the loss of any success gained by the troops in front through want of timely support. The formation of the troops in reserve should be regulated so as to avoid unnecessary loss from the enemy's artillery. The whole, in their advance, should neglect no opportunity of utilising cover, and will move as in the attack of any other entrenched position. These are the general principles that experience of modern fire-arms has established for the attack of villages.

If an isolated building detached from the village be met with, the advance against the latter should not be arrested on this account—part should remain to attack the building, while the remainder continued its movement against the village. Thus, in Von Memerty's attack of the village of Noisseville at that battle, he left a part of his force to act against a large brewery about 600 yards outside the village, and with the rest moved on against the village itself.

The artillery will continue its fire until the infantry have advanced sufficiently to mask it. It should then turn its attention to the direction in which supports would be brought up by the enemy. In the attack of Flavigny, at the battle of Mars la Tour, the Prussian batteries at Vionville, as well as those to the south, first concentrated their fire on the village with great effect, and then with equal effect on the French columns advancing over the opposite hill to retake it.

A party with suitable working tools should form part of the attacking force, to clear away obstacles, make passages through walls and houses, and be at hand to rapidly fortify a post or village if captured. In the great French sortie arranged for November 29, 1870, the force appointed to attack the village of l'Hay had to start without their working tools through some great mismanagement in the arrangements. When subsequently arrested by loopholed walls and houses, they were unable to make the breaches necessary to dislodge the enemy. On the other hand, when the French carried the village of Ladonchamps,

near Metz, on the night of October 1-2, 1870, they entrenched themselves so rapidly that several counter attacks failed to recapture it.

Theory lays down elaborate instructions for the conduct of a fight within a village, but when the defence is at all obstinate, practice proves that guidance of any kind becomes almost impossible. There is neither time nor space for manœuvring, and the fight usually resolves itself into the efforts of individuals or small groups to drive back their opponents, the struggle often swaying backwards and forwards with varying success. No general control can be exercised over the fight, and individual commanders can do little more than excite their men by their example.

But certain points should be kept in view. Important buildings once gained should be solidly occupied as strong points in case of a reverse. Localities where the resistance is particularly obstinate should, if possible, be isolated, and the remainder of the village cleared of the enemy. These points and the citadel should then be carried, if an immediate counter-attack by the enemy is anticipated. Order amongst the attacking force should be as rapidly as possible restored on the capture of the village. The side towards the enemy should be at once put in a state of defence.

Cavalry can take little part in the attack of a village, except in paralysing the action of that of the enemy, and in covering a retreat.

A general rule for conducting an attack is to direct it on as many separate points as possible ; but there should be sufficient connection between each part to prevent one being cut off through the failure of another. In the Prussian effort to recapture Ville Everard on December 22, 1870, they attacked it in front with one part of the force, while another made a detour against the rear. This latter gained a lodgment in the village, but the front attack failed, so the former had to withdraw before daylight to avoid being captured. Similarly, in the French

attempt to recapture Le Bourget, one company, in an effort to turn a barricade that could not be forced in front, was separated from the remainder and lost.

All attacks on a village should be closely combined. The failure of the Prussian attempt on Noisseville on September 1 was probably a good deal due to the attack on one side having been delayed until that on the other had been defeated.

CHAPTER XVIII.

WOODS.

THE advantages afforded by a wood to troops occupying it are, that it conceals them from the enemy's view, and therefore from his aimed fire, while the trees afford a certain amount of shelter from his bullets. Moreover, the enemy is kept in ignorance of the disposition and strength of the force holding the wood, and therefore must move a good deal in the dark in attacking it.

Woods are usually held in connection with a position, either supporting its flanks or forming a strong point in its front. Their size should admit of their being fully occupied, else they might aid the enemy in turning the position. In such a case, though it may not be possible to neglect their occupation altogether, they would form weak, rather than strong points in the defence.

A disadvantage common to both sides fighting in a wood, is the rapid dissolution of all tactical formations, even in the smallest bodies. The action of the men becomes essentially individual, and, the view being limited, control over the movements of a company, much less of a battalion, becomes very difficult. It is a matter of experience that severe fighting in a wood produces almost complete disruption of tactical units, and hence the greater necessity for intelligent action on the part of subordinate officers, who should be ready to act with decision and a certain degree of independence as opportunities offer themselves. At Spicheren, of thirty-two Prussian companies engaged in the Gifert's Forest, those of one battalion only remained collected at the end. 'Even the companies were much mixed up, those

detachments that lost their officers forming on to other troops.' Similarly, in the Swiep Wald, at Sadowa, the official account of the battle describes the Prussian companies as, after a little time, fighting singly and without any connection with each other. 'In all parts the officers rallied round them whatever men were in their neighbourhood, no matter to what regiment they belonged, and led them forward again and again.' The same disorder was on all occasions observable. After the fight in the Niederwald, at Worth, the battalions of the Prussian first line presented no appearance of tactical units. The officers were everywhere engaged in collecting their companies and forming battalions.

Previous to occupying a wood for defence, it should be carefully examined and the following points noted :—

Its length and depth.

The nature of its growth in the interior and on the edges.

Clearings, openings, and houses within the wood, the nature of the latter and their surroundings, and how far defensible.

Whether the ground is hilly, level, dry, or marshy.

If traversed by a river or stream, to what extent it is passable and defensible.

Roads and paths, and their nature.

The best way of artificially strengthening a wood is to erect obstacles at its entrance and establish inner lines of defence. But such obstacles as abattis require much time and labour for their construction, so they will usually be available for only a limited portion of the front. When the outline of the wood is irregular those parts jutting out to the enemy are the most vulnerable, and here abattis might be placed with great advantage.

The roads leading from the enemy become points of great importance, and should either be broken up outside the wood or barricaded at its entrance. But how far they should be rendered unserviceable to the defenders must be entirely determined by the plans of the commander.

In the border of the wood lies the heart of the defence, so that every effort should be made to strengthen it. Frequently an existing bank supplies a natural parapet, and where this is not found a shelter trench would be rapidly constructed if the tools were at hand. Even very slight cover, from the feeling of shelter afforded, makes the soldier's aim steadier and his fire proportionately more effective. Did time permit, which it seldom now-a-days does, much may be done in clearing the ground in front of what would shelter the enemy and impede the view, breaking up the roads, and measuring the distances at which an advancing enemy would become most exposed to fire.

When the wood is of some depth it will usually be desirable to form a second line of defence. For this a natural feature, such as a ravine, a commanding ridge, or a clearing will be most favourable. Artificial obstacles such as abattis lose a part of their value within a wood, inasmuch as they do not necessarily detain the enemy *under fire*, and, unless extensive, he can turn them. A defensive line in rear of a wood is always of importance to rally on, for experience proves how effective a fire from a position of this kind may be made in preventing the enemy who has gained the wood from issuing from it. At the action of Nachod, in 1866, the Prussian companies driven from the Wenzelsberg wood took up a position commanding the open ground in rear, and completely defeated the efforts of two Austrian brigades to advance from the wood. Similarly, at the battle of Spicheren, a ditch and hollow road to the south of the Gifert's Forest afforded a rallying point to the French when driven on two different occasions from the wood, and enabled them to stop the further advance of their opponents. At Worth the small copse between Elsasshausen and the Niederwald sheltered the French when driven from the former, where they not only checked for a time the advance of the Prussians, but made dispositions for a counter attack. Yet the effect obtained from a position of this kind does not depend on the intrinsic strength it possesses, but rather on the unwilling-

ness of troops who have gained cover by fighting, as in a wood, to leave that cover for an advance under fire across the open.

In disposing troops for the defence it should be borne in mind that the advantages of the wood only exist for the defenders as long as they keep their opponents out of it. Thus everything should be regulated with a view to maintaining possession of the border. To retain troops out of action as eventual supports, while the edge of the wood was being lost, would be a grave error. Guarding as long as possible an intact reserve is an important principle in all fighting, but keeping troops disengaged while the enemy is still in the open, with a view to using them for a counter attack after he has established himself in the wood, would be to forego all the superiority of the situation, and institute instead one of comparative equality. Thus adequately occupying the border will often encroach on the strength of what would otherwise form a second line and reserve.

A wood, like all other positions, frequently possesses certain points, such as salients, that must be carried by the assailants before the advance can be continued. The defence of these will therefore demand special attention, and in addition to occupying them strongly, troops will be posted elsewhere to provide them with flanking fire. Such points afford an indirect defence to parts of the wood in rear, through preventing them from being attacked, so these latter may at first be held lightly.

The points that require to be most strongly occupied are those nearest the enemy, those to which the approaches will afford him most cover, and those whose possession would enable him to turn strong points in the defence. Such are salients, ravines, re-entering angles, and all commanding ground. At the battle of Spicheren the Prussians made two successive attacks on the Gifert's Forest at the same point, taking advantage of the cover afforded by some hollow ground in their advance.

Assuming that the force available is adequate for the defence of the wood, its disposition would be somewhat as follows.

A line of skirmishers along the border nearest the enemy. Supports in small bodies, at from 50 to 100 yards in rear of the skirmishers, disposed with a view to speedily reinforcing the points of most importance and most likely to be attacked. These supports would be available either for filling up gaps in the front line, or moving directly against the enemy should he succeed in penetrating the wood. Such attacks should be made, when possible, on his flank or rear.

A reserve formed in one or more bodies would be posted at convenient distances behind the supports at advantageous points, such as cross-roads, clearings, or across a main road. Its action will vary in the two separate cases of the wood forming part of a general position, or being held by a detached force. In the former the whole of the troops placed in a wood would usually be intended to become engaged, to the last man if necessary, in its defence. In the latter the reserve should be carefully husbanded to cover a possible retreat. Taking the first as the more usual case a reserve should, when necessary, intervene frankly in the fight to reinforce or support the troops engaged in front. But it is always desirable to maintain the whole, or a part of it, intact as long as possible, for while a fight lasts a crisis may at any moment arise whose favourable issue would rest on the timely intervention of fresh troops. But this can only be obtained from a body of troops kept collected, as with those once extended manœuvring is no longer possible. When required to intervene in the fight, the supports and reserve should seek to assume a vigorous offensive.

The artillery of the defence should be disposed so as to sweep the approaches. When the wood is of considerable extent the guns must be placed within it. When small they would be disposed on its flanks if the ground were advantageous. Within a wood re-entering angles will usually afford the best positions, as a flanking, and frequently a cross-fire will be thus provided for the salients, while the guns themselves will be less exposed to capture. When posted for the defence of a road or main ap-

proach they may be placed on it for enfilade fire, unless its prolongation leads in a direct line to the enemy's position. In this case they should be placed on one side of the road, else they would become a sure mark for the enemy.

Guns should be screened from the enemy's view by branches of trees or other foliage, from his fire by *épaulements*, and from a *coup de main* by *abattis*. A good means of retreat should always be provided for them.

Cases would rarely occur when it would be advisable to place cavalry inside a wood. Its place will usually be in rear of the flanks. Here it can act against a turning movement, or against the enemy issuing from the wood after having gained possession of it. In the attempt of the Austrian infantry to advance from the Wenzelsberg wood after driving the Prussians out of it, they were charged in flank by some Prussian squadrons with very decisive effect. Charging infantry advancing to attack a wood can rarely be expected to have advantageous results. For if the infantry have arrived within effective range of the defender's infantry, the fire of the latter will become masked, while the formations of the assailants should still be sufficiently preserved to enable them to beat off the cavalry with loss. If the attacking force is still at a distance from the wood, and are not surprised, more time will be afforded it to prepare to meet cavalry. This was proved by the failure with great loss of Michel's cavalry charge at Worth on the Prussian infantry advancing against the Niederwald. But the fighting in a wood tends so much to disorganisation, that if troops advance from it without being re-formed the opening for cavalry is all the greater.

In making dispositions for the attack of a wood the assailants labour under the serious disadvantage of being ignorant of the strength and position of the force opposed to them. For beyond ascertaining that the wood is occupied, little else can be obtained by reconnoitring.

From what has been said of the defence it can usually be inferred at what points of the wood most resistance may be ex-

pected. It will then depend on the commander whether he attack those points, or whether he seek to gain his object while avoiding them. A previous careful consideration of the direction in which difficulties may be met with, and their nature, should regulate the dispositions for attack, as here, more almost than in any other case, should a repulse be as far as possible guarded against.

For the assailants move generally over open ground, and must therefore expect to suffer heavily in their advance, without the encouragement of perceiving that they are inflicting loss in return ; and if the attack fail, experience proves that the loss in retiring will be even greater still. Further, as a wood should never be attacked unless its possession is indispensable, or through some equally urgent cause deriving from the general situation, the attempt will have to be renewed under the adverse circumstances of a previous defeat and a still hidden enemy.

Though the strength and position of the defenders will only become apparent as the fight progresses, yet the primary dispositions of the attacking force can usually be adhered to until the border is occupied. And the possession of the border at some point is the first thing to be sought for, as it at once puts the front line on an equality with their opponents as regards cover, so that when the attack is entered on it should be resolutely, rapidly, and unflinchingly carried out.

The disposition of troops for attacking a wood would be similar to that for attacking any other strong position. The defenders must be driven from the border, and their power of defence must be first shaken by fire. For this the front line of the infantry would be formed in extended order, more or less thickly as a real attack, or a feint only, is intended. For though special efforts will be made against certain parts of the enemy's line, yet his attention must be engaged along the whole front to prevent him from reinforcing the attacked points by denuding others.

The troops extended must be followed pretty closely by

supports, disposed either in open order or collected in small bodies. These will be at hand to reinforce the front line if casualties are large, to enable it to rally if temporarily pressed back, and to act against flank attacks should the enemy attempt them. A close following of the supports is moreover necessary in attacks of this kind from the moral effect it produces ; for a thin line of infantry, if left to its own immediate resources, could not be expected to advance with great confidence against a force it does not see and whose numbers imagination may from this very cause unduly magnify. Close formation in the front line, or deep formation in the supports, should be avoided. In the attack by Hertwek's Austrian Brigade on the small wood east of Wenzelsberg at the action of Nachod, his infantry was formed in two deployed lines. Each line was composed of two battalions. The wood was held by one Prussian battalion. The first Austrian line was driven back with great loss before getting near the wood. The second line replaced the first but could gain no ground beyond a ravine in which it obtained shelter. Taken in flank by another Prussian battalion this line had also to retreat, and these four battalions suffered so heavily in this attempt that they had to be withdrawn out of action for the remainder of the day

A third line follows in more compact order in rear of the supports, and sometimes a fourth line. This would be retained at first as a reserve, unless a reverse or some decided check in front required its active intervention. Even a small body of fresh troops may at any moment exert an important influence on the fight in its own vicinity. In the attack on the Niederwald, at Worth, a battalion of the 80th Prussian Regiment was driven back by a counter attack of the French. Another battalion of the regiment following at some distance in rear enabled the repulsed troops to rally, and both in conjunction then attacking the enemy, not only forced him back, but, following up the success, carried the border of the wood as well. But these reserves should be kept at some distance in rear, as to be used

advantageously they should not be disseminated, and the larger the bodies in which they move the more liable they are to suffer from the fire of the enemy.

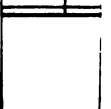
Advantages of ground in front of a wood should be seized on by the assailants, both to favour a further advance or to cover an eventual retreat. The Albrechtshausenhof and the high ground to the north-west was hotly contended for by the Prussians at Worth, as the first point to be secured in an attack on the Niederwald. It was equally stubbornly defended by the French, who once driven from it again recaptured it.

As soon as the border is carried by the front line the supports should at once move forward and the whole press on through the wood. The fact of driving the defenders from the edge establishes for the moment the local superiority of the assailants, and this should be freely utilised in pressing the enemy before he can be reinforced. When the wood is extensive an advance of this kind incurs danger from its isolation, but on the other hand it may have the effect of obliging the defenders holding the edge on either side to fall back too, from anxiety for their own position. And a vigorous forward movement will to a great extent anticipate an organised counter attack, while the supports and reserves, if promptly moved up, should sufficiently guarantee the safety of the flanks. The further the assailants advance into a wood, the greater difficulty, as a rule, will the defenders have in expelling them, provided the former are fairly supported. Should they be arrested by a second line of defence within the wood it will then be time to pause in arranging for a further advance. In case the obstacle were considerable they should wait for reinforcements, if there were strong probabilities of a repulse. For a repulse in a wood has more than a local effect, as it reacts on the remainder through the exposure of their flanks and the inability of discerning to what extent this exposure is attended with danger. In the attack of the Dubno wood at Skalitz the Prussians encountered a serious check within it at the Ranger's house. Though the advance had hitherto fallen

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into considerable disorder, a battalion and a half was united for a combined attack on the buildings. These were carried, and pressing forward briskly the Prussians subsequently gained the further edge of the wood. But in this case they were in much greater force than their opponents.

Writers on tactics have laid down the formations which troops should maintain in moving through a wood. But unless the advance be very feebly resisted, it will usually be difficult, if not impossible, to preserve formations or even to guide the fighting at all. In the attack just alluded to the official account of the action states that in advancing through the wood the troops got so intermingled that all guidance of the action ceased. Yet the extent of the wood was not more than 800 yards either way.

When it is possible the original formation should be preserved, but when the fighting is obstinate this can rarely be effected. Commanders should be therefore prepared to face the constant alterations in the situation that must arise, and apply at once the best remedies that suggest themselves. As long as the advance progresses, the supports should be carefully kept back out of the fighting line. Should they become eventually engaged, great efforts should be made to collect small bodies to act as fresh supports. Groups of this kind under control may be made to intervene with great effect, either to parry a local flank attack, or to affect one, or to serve as temporary rallying points. It has been asserted that the success of the Prussians in maintaining themselves in the Swiep Wald, at Sadowa, against nearly four times their numbers was greatly due to the use made of small bodies of this kind. But though it may be impossible to attain this by a simple adherence to stereotyped formations, yet much may be done by an intelligent observance of the principle. Even if the enemy be forced out of the wood an intact force should be kept ready to meet a counter attack. In the first attack on the Gifert's Forest, at Spicheren, the French were driven out of the wood. But the whole Prussian force engaged had

been gradually drawn into the first line. When the French advanced with fresh troops the Prussians had neither supports nor reserves, so they were in turn driven back again, and suffered very heavily in retiring through the open. On the other hand, at Worth, when the Prussians had gained the further edge of the Niederwald, a vigorous counter attack forced them back again into the wood ; but having kept a reserve it met the advance of the French and defeated it.

The direction of the enemy's retreat generally determines the line of advance of the assailants. Once in a wood there is little to guide one except the fire of the enemy. This is the magnet that draws the attacking force on, as it represents the immediate and obvious form of resistance to be dealt with. As has been shown, guidance of the fight when the defence is stubborn quickly escapes from the higher commanders. But subordinate officers may still exercise an important local influence in directing the groups immediately about them. Their efforts should turn to preserving as much general connection amongst the whole as is possible, and their personal example will do much towards maintaining that onward movement which contributes so much, if only by its moral effect, to eventual success.

Infantry should be re-formed before issuing from a wood to follow up a success. An exception may be made when a second position beyond affords a refuge to the defeated troops and when a prospect of carrying it by a sudden rush exists. For the possession of this second position by the enemy may make that gained by their opponents untenable. Thus notwithstanding the disorganised condition of the Prussian infantry after the capture of Neiderwald, yet the fire from the village of the Elsasshausen was so destructive that it became necessary to advance at once or risk losing what had been already gained. Still the principle of reorganisation should be observed as far as possible. When the British Guards recaptured the wood of Bossu at Quatre Bras their ranks became so broken in fighting through the wood, that on issuing from it without being re-

formed they came on the French reserves and were quickly driven in again.

As in other attacks, that on a wood should be prepared by artillery. The enemy's guns will usually reserve their fire until the opposing infantry advances, so the guns of the attacking force would open in the first instance on those points of the border where an attempt is to be made to force the defence. But immediately the position of the defender's guns becomes disclosed, they should become the point for the attacking artillery. For they afford a certain target, whereas the position of the enemy's infantry masses is unknown. Yet troops within a wood may suffer severely from the latter being simply shelled by artillery, as was proved by the Prussian losses in the wood near the bridge of Sadowa, as also in that of Dubno, near Skalitz.

The advance of the artillery should conform to that of the infantry, but within a wood opportunities for its action are not often afforded. Moreover, the uncertainty of wood-fighting is always so great, that pushing guns very forward would be attended with danger. But when the further border is gained they cannot be brought up too rapidly, as they will materially aid in the further advance of the infantry as well as in resisting a counter attack. In the Prussian attack on the Niederwald the artillery was at first kept back behind the Sauer. But according as the infantry gained ground in the wood it was drawn forward, and when the Prussians were completely checked at the further edge by the French artillery, their guns were at hand, and coming rapidly into action opened the way for a further successful advance of the infantry. In their second attack on the Gifert Forest at Spicheren, the Prussians succeeded in driving the French out of it. But the ground did not admit of artillery being moved through the wood, while the French guns fully commanded the ground beyond from the opposite heights, and the Prussians could make no further progress on that side up to the end of the action.

But guns should not be adventured much beyond the edge

of the wood until the infantry decidedly gains ground, for counter attacks must still be expected, which if successful would seriously endanger their retreat.

The business of the cavalry will be to clear the ground of the enemy's cavalry and secure the flanks of the infantry in its advance. Unless the wood is very extensive it will rarely be advantageous to move cavalry through it, as its action within the wood will seldom be possible, and if required on the further side it will usually be better applied from the flanks. While the infantry is engaged in its attack along the front, the cavalry may try to turn the wood and find out the nature of the ground and force of the enemy beyond it. But it must be careful not to expose itself to a fire from the wood, as that will usually be very destructive. When the infantry gains the opposite border, the cavalry would move forward to cover its further advance from attacks by the enemy's cavalry. When the Austrian infantry drove the Prussians from the Wenzelsberg wood at Nachod, $5\frac{1}{2}$ Austrian squadrons moved up to cover the advance on the left flank. But attacked by 9 Prussian squadrons they were driven from the field, and the Austrian infantry advancing from the wood became thus uncovered and were exposed to a very effective charge of this Prussian cavalry.

EXAMPLE OF ATTACK AND DEFENCE OF A WOOD.

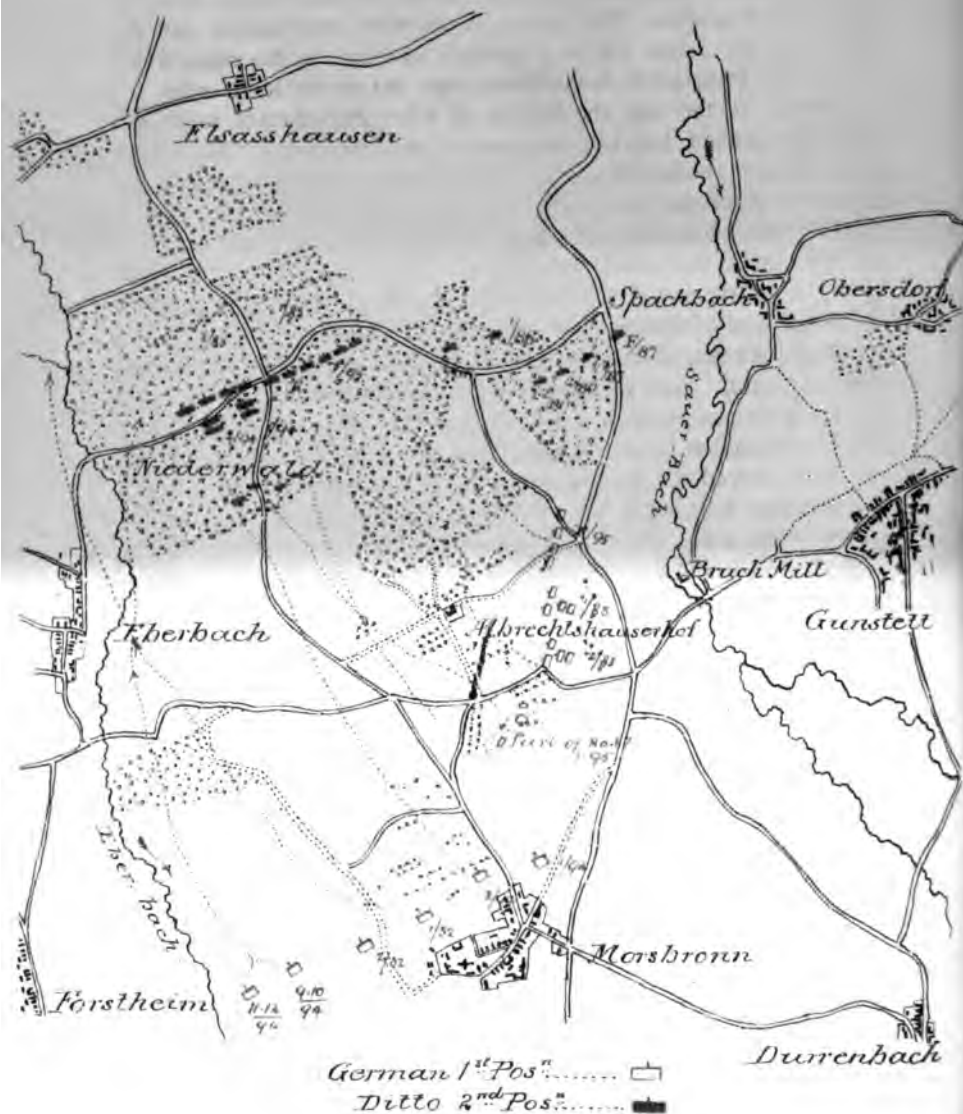
Niederwald, August 6, 1870. See PLAN XXVI.

The Niederwald was an extensive wood on the right of the French position at Worth, and when attacked by the Prussians during that battle was defended by the greater part of two French Divisions. The attack was carried out by the xith Corps.

On the right, two battalions of the 88th Regiment supported by portions of the 80th and 87th advanced from the village of Spachbach against the eastern edge of the wood. The two battalions of the 88th



Attack on the Niederwald
6th Aug^r 1870



Scale

0 500 1000 Yds



were formed in company columns at open intervals. In their advance across the open, they came under a sharp fire of musketry from the enemy's infantry lining the edge of the wood, as also shrapnel from the Elsasshausen heights. The border of the wood was carried, and the course of the action led to a gradual wheeling to the right, which brought the Prussians to the northern edge, but in very loose order.

Further to the left, the heights of Albrechtshausenerhof were also carried by parts of three other regiments, but a vigorous counter attack of the French recaptured them. The Prussians reinforced, again advanced to attack the wood as follows.

The fusilier battalion 95th Regiment from Gunstett in four company columns against the south-east side. Its skirmishers closely followed by the supports forced their way into the wood, and steadily gained ground in spite of repeated counterstrokes by the enemy.

To the left rear of the 95th, followed in echelon the first and second battalions 83rd. Each battalion had its two centre companies in front, and the flank companies following as half battalions. The heights of Albrechtshausenerhof were again captured, but a fresh counter attack of the enemy forced the leading battalion to give way. Rallied by the 2nd battalion, both again advanced and charged towards the southern border of the wood. The enemy kept up the defence, supported by artillery and mitrailleuses, until the Prussians arrived within fifty yards of the edge, when they fell back into the interior.

The two battalions of the 83rd led the advance, one on each side of the Morsbronn-Elsasshausen road. The fusilier battalion 95th Regiment, that we have seen had entered the wood on the right, now formed support on that flank, and with part of the Rifle battalion and two battalions of the 94th on the left, became second line. Still more to the rear on the left came 6 companies of the 95th, partly re-formed and partly mixed up with portions of the 80th and 87th Regiments, which had got into disorder when the French first recaptured the Albrechtshausenerhof, and had not been able to reorganise through the loss of their officers.

The advance of the two battalions 83rd progressed very slowly and with heavy loss, from the stubborn resistance of the enemy. All the companies of these two battalions gradually opened out into one line of skirmishers, the leading of which was very much hampered by the thick undergrowth. The enemy was also in skirmishing order. The Prussians finally gained the northern edge of the wood.

Beyond this edge was a small copse, separated from it by about 200 yards of open ground. From here the French had hitherto kept in

check the Prussian battalions on the right that had advanced from Spachbach. Along the northern border of the Niederwald were now therefore deployed two battalions of the 83rd and two of the 88th. Between these two regiments the miscellaneous detachments of the 95th, 80th, and 87th Regiments, hitherto in third line, were now brought forward. The second line, composed of the 94th and Rifles, were still in rear within the wood.

The French held the small copse in front, and between it and Elsasshausen they had strong reserves. They had hitherto been solely engaged with the two battalions of the 88th on the right, but now they turned the whole of their efforts against the fresh troops that had arrived on the northern edge of the wood. After a short but vigorous skirmishing fire, they advanced to attack in strong bodies from the copse along the Morsbronn road, and drove the exhausted and attenuated lines of the 83rd back into the wood. But these rallied on their second line—the 94th deployed across the road, the Rifles on their right. The second line now advanced, followed by the previously repulsed first line, to meet the French pressing forward through the wood. The latter were again driven back, and the Prussians now pursued them so closely that they crossed the open ground beyond the wood at their heels, and established themselves in the copse, which they held. This last success secured for the Prussians permanent possession of the Niederwald.

CHAPTER XIX.

CONVOYS.

BY CONVOYS are meant the modes of transport requiring escort used in connection with an army, independent of the train accompanying in the field. They may be classed under two heads :

- 1st. Those moving from the source of supply in the direction of the army, for the conveyance of provisions, ammunition, clothing, &c.
- 2nd. Those moving from the army to a distance in rear with sick, wounded, or prisoners.

These may be further separated into convoys by railway, convoys by road, convoys by water.

In European warfare transport of every kind would now be almost entirely effected by railway. But in countries where railways do not abound, that by road and water would still prevail. As it is with warfare in such countries that British troops have been for a long time most concerned, the importance for us of the two latter kinds still remains the same.

The strength of a convoy should not, as a rule, much exceed what would in single file cover a mile of road. When the number of carriages is greater, they should be divided into one or more detachments, and each move as a separate convoy.

The disposition of the carriages on the march would be such as would provide most safety for those whose freight was of most value. If the convoy were a mixture of carriages and pack animals, the latter would be placed in front, as, if in rear,

they would suffer from the damaged state of the road through the previous passage of the wheeled conveyances.

It will often be convenient to make the carriages move two abreast instead of in single file. This will concentrate the escort by diminishing the length of the column, and so increase its strength in case of attack. But for this the road should be sufficiently wide to admit of three carriages moving on a level, else it would be completely blocked up for other traffic. But where streams, villages, or narrow roads are likely to be much met with, this doubling of the files would cease to be an advantage, from the delay attending frequent re-formations, and so it would not be adopted unless there was a prospect of maintaining it undisturbed during at least an hour's march.

The carriages should follow closely on each other, no opening out being admitted except in ascending hills. When the latter are steep, it may be necessary to double-horse each carriage, in which case the convoy would have to move in two divisions, the whole of the horses being used for each.

A certain percentage of reserve carriages, and also spare wheels, poles, &c., should always be provided. For if an accident cannot be quickly repaired, an effort would be made to save the load by distributing it amongst the other carriages. But this would quickly lead to overloading, which would produce fresh accidents, and the loss go on increasing. So that transfers of loads in case of break-downs must be made with caution. Halts should be made at regulated periods, both to rest the horses and close up the files, as even small obstacles on the road tend to materially lengthening the column. Long halts are to be avoided, but if the day's journey be so long that it is necessary to feed during the march, ground should be sought where the convoy can be 'parked,' and in such order that the march can be easily resumed. The horses must not be taken out, and forage should be brought for them on the wagons.

Every convoy should be provided with an escort capable of

ensuring the safety of the march. Its strength and composition will be determined by the value of what is being conveyed, the chances of meeting the enemy, the extent of the convoy, the distance to be traversed, the friendliness or hostility of the natives. As its chief business will be to beat off attacks of the enemy, it will be mainly composed of infantry. Sufficient cavalry should be added for extensive reconnoitring, and a party of engineers for repairing passages or removing obstacles. Guns would sometimes be added also.

The great length of a convoy, and its weakness at all points, entails considerable dissemination of the escort. Yet this dissemination must be reduced to the utmost, so as to be in the greatest force possible to meet the enemy's chief attack. An advanced guard, a rearguard, and flanking parties are indispensable, and the main body would usually furnish a small party of infantry for the immediate head and rear of the column.

The advanced guard would usually be composed mainly of cavalry. Its special business is to search the country through which the convoy has to pass, and ensure safety from ambuscades or sudden attacks of any kind. For this its patrols should reconnoitre extensively, pushing out at least five miles to the front and flanks. Early information of the enemy's presence and movements is of extreme importance to the commander. Attacked on the march, and unawares, a convoy is at a great disadvantage, while if time is afforded it to close up, or 'park,' it can resist a much superior force with success. (Such a superiority or combination of two arms is not here assumed as that of the allies in their attack on Pachtod's convoy in 1814.) Even in moving away from the enemy vigilant reconnoitring should not be omitted as long as the march is within the sphere of his action. A French convoy of 5,000 Prussian prisoners being marched from Erfurth to Frankfort after the battle of Jena, was surprised by 200 of the enemy's cavalry (themselves cut off), the escort sabred, and the whole of the prisoners released. The Emperor commenting on this incident said, 'The first rule of

prudence required that it should have been made certain that the route to be followed was free, and for this it should have been explored and opened up by a party of five or six hundred cavalry.' These reconnoissances should be made equally before starting, more especially after a night's halt, as it would be while setting out on the march that the enemy would endeavour to attack the convoy if aware of where it had halted.

The head of the convoy being a very vulnerable part, from the block that would ensue if the leading wagons were arrested, a small body of infantry should be posted there to meet a dash of the enemy's cavalry. A similar disposition would be made for the rear.

The main body of the escort would as far as possible move united. In an open country its position would be about the centre, but it might move either at the head or in rear according as an attack was apprehended on either of these points. When the length of the convoy does not much exceed a mile, the main body united about the centre is best posted to meet a serious attack in any direction, if the reconnoiters do their duty, and it is also within reach of giving support to the head or rear if minor attacks are attempted at these points. But when the country is confined and the approaches on the flanks difficult, then the main body would move at either end of the column according to the direction in which danger threatened. In this case it would detach a party to guard the centre. But an extensive subdivision of the main body is always to be avoided.

In escorting prisoners the difficulties become greater from having to guard against hostility in the convoy itself, as well as from external sources. The strength of the escort in this case is usually computed at ten infantry and one cavalry soldier to every hundred prisoners, with artillery sometimes added. Here the escort would be more subdivided for purposes of repression than in an ordinary convoy. The least symptom of insubordination should be instantly and energetically dealt with. At places where halts are made for the night, the usual precautions of

guards, &c., for the security of the prisoners should never be dispensed with.

When the escort is sufficiently strong a soldier may be allotted for measures of police to every one or two waggons, more especially when these are conducted by civilians. For in the alarm and confusion arising from an attack the latter are liable to cut their traces and go off. This precaution becomes still more necessary when the carriages have been requisitioned, for the drivers would then be on the look out to desert with their horses at any movement. But if the escort is too weak to supply surveillance to this extent, a few cavalry soldiers should be distributed amongst the wagons.

The special business of an escort is the safe conduct of the convoy. It should therefore avoid all unnecessary fighting. Yet the enemy's parties may have seized defiles or other positions commanding the line of march, which for safety it would be necessary to dispossess him of. In these cases he should be attacked vigorously and in sufficient force, while detachments would remain close to the convoy. The latter should always continue its march when the road is not actually barred. The escort should confine itself to dispersing the enemy and never be led into pursuit. It should manœuvre during the march to engage and check him at some distance, and so enable the convoy to file past without halting. If the enemy be signalled in superior force it would be necessary to halt and 'park' the convoy and concentrate the escort. This would be done if possible on one side of the road, and in an enclosure that would act as an entrenchment. If it is not possible to leave the road, then the waggons would be closed up and the files doubled. While this is being done a part of the escort would be pushed forward to delay the enemy's advance and give time for its completion.

Should the enemy threaten two separate attacks and the escort be not strong enough to detach a part against each, it should endeavour to fall rapidly united on the nearest, and then

move in turn against the other. But in dealing with separate attacks care must be taken to distinguish false from real ones, and in no cases should the detachments apportioned to different parts of the convoy quit their posts to aid others without distinct orders.

If the attack is going against the escort an effort should be made to get away a part at least of the convoy. If none of it can be saved the horses should, if possible, be carried off. If still on the line of march and forced to retire by an attack at the head, then extreme efforts should be made to keep order in getting the carriages round, as an accident to one might block up the road for those following. If closely pursued, a couple of waggons should be upset at the first narrow road or defile to retard the enemy. Should the attack be a surprise and made in superior force on a flank, the escort should concentrate for the defence of that part of the convoy there is a chance of saving.

If the enemy is not signalled in superior force it would not be necessary to 'park' the convoy, and their position would determine whether it should be even halted. As, if they were on one flank the escort might move forward into a covering position while the convoy continued its route. When the enemy is in inferior force it would not be even necessary to halt, as part of the escort should move out and disperse them.

The most dangerous part of the march for a convoy is the passage of a defile. For the movement must be effected in single file, and the space is so confined that the different parts of the escort cannot be easily reinforced. Hence it is the most attractive point for attack. Before entering it the reconnoitring to the front and flanks should ensure the absence of the enemy to a considerable distance. The advanced guard would take up a position sufficiently beyond the defile to allow of the convoy being 'parked' as it arrives on that side. If the rear is considered sufficiently secure from attack, the main body of the escort would also move forward to reinforce the advanced guard. The convoy would move through the defile as quickly as possible, as

the sooner so dangerous a situation is got rid of the better. But if it were necessary to halt at the near side of a defile while special reconnoitring was being carried out beyond, the first half of the convoy might be 'parked,' and the second half pushed through as it arrives, 'parking' also on the other side. By this time the first half will have had time to rest and perhaps feed the horses, and, passing the defile in turn, will resume its position at the head of the march. If the convoy passes through without halting it should, if an attack is possible, be 'parked' beyond as it issues. The escort will thus be maintained to a great degree concentrated in the neighbourhood of the defile during the whole of the passage. Its actual position can alone be determined by the direction in which danger threatens.

In 'parking' wagons for a simple halt they would be ranged in several lines about 25 yards apart, axle-tree to axle-tree, poles or shafts facing in one direction, and horses picketed in front of their respective wagons.

When 'parked' to resist an attack, they would be drawn up either in square or oval, formed in one or two ranks according to the strength of the convoy. If the interior space would be sufficient for what is to be collected within, the formation in two ranks would be preferable. If the carriages be aligned axle-tree to axle-tree, the barrier becomes stronger; if end to end, the internal space will be greater. Horses are picketed in the interior opposite their wagons.

The only exception to this method of 'parking' would be when the convoy is of gunpowder. Then the carriages would be massed closely together and the escort disposed at some distance, so as not to draw the enemy's fire on the convoy.

If time does not admit of 'parking' to resist an attack, the carriages should be closed up to double file and the horses faced inwards looking at each other. This will completely shelter the latter from the enemy's cavalry, who by injuring them or cutting the traces would cause considerable disorder. It will also reduce the length of the convoy to a sixth or a fourth ac-

ording as the wagons have four or two horses, and will admit of the order of march being resumed without trouble.

To attack a convoy is less difficult than to defend it. In one the escort must be always to a certain degree disseminated, in the other the attacking force may be wholly concentrated. The one is in uncertainty where to expect the blow, the other moves straight to its point on a prearranged plan.

Success is best assured when the convoy is attacked on the march, particularly if moving through difficult ground or a defile. It would also be attacked with advantage when 'parking' after a march or in starting from its bivouac after a halt.

An attack should be so far a surprise that the convoy should be reached before it has had time to close up, or the escort to concentrate. This becomes difficult if the enemy's reconnoiters do their duty. A part of the route should be selected where the defenders will be at most disadvantage; but for this the movement must be very well timed (a matter of great delicacy) or an ambush erected. It therefore becomes the first duty of the commander to obtain full knowledge of the enemy's force and movements, and also the character of the country, roads, &c., he is moving through.

To effect a surprise sudden and rapid action would be required, so that the main part of the attacking force would be of cavalry. But as cavalry could not hope to disperse good infantry, a certain number of light guns should be added. These materially aid too in causing disorder in the convoy. The composition of the attacking force would therefore be about two thirds cavalry, one third infantry, and guns according to circumstances.

In an open country the flanks are the most vulnerable part of a convoy; in a close country, its extremities. If engaged in a defile it may be attacked after part has entered, when the remainder would be cut off, or after part has issued, with a similar result.

If an attacking force is superior it might fall simultaneously on the head, rear, and centre. Otherwise part would be detached

to head the convoy while the main body sought to beat the escort in detail. The more disseminated the latter, the more facility for effecting this. If the attacking force be very inferior it can only make attempts against the rear of the convoy, or hang on the line of march so as to delay and harass it.

If the convoy has time to close up or 'park,' then it cannot be attacked with much hope of success, unless the force be very superior, without the aid of artillery.

In all attacks feints at different points are advisable to keep the escort disseminated. A reserve will usually be provided, especially when there is a possibility of the escort being reinforced.

The object of attack is to capture or destroy the convoy. If the escort is beaten the carriages cannot be moved off too quickly. Should there be danger of recapture, then only what is most valuable should be removed, and the spare horses might be harnessed, in addition, to these carriages. If no part can be removed, then the horses at least should be carried off and the convoy burnt.

A convoy by water will be conducted on similar principles to that by land. The infantry of the escort would as a general rule move in boats, the cavalry on the banks. The chief duty of the cavalry will here again be to reconnoitre extensively, both to ensure that there is no ambush prepared, and to signal the enemy's approach while he is still at a distance. It has been sometimes advocated to march a part of the infantry along the banks as well as the cavalry, but little would seem to be gained by this. For if a serious attack were to be met the whole of the escort would require to be landed. If the attack were not serious the cavalry should keep it at a distance. And in either case, if the reconnoitring were efficiently performed there should be ample time to land any portion of the infantry required. Moving infantry along the bank would be likely to

retard the convoy and unnecessarily fatigue the infantry. For if the latter were to quit the river-side they would fall to the rear unless the convoy were halted until they returned. And if they moved constantly along the bank they might equally well be in the boats. In either case they would have some difficulty in keeping up, unless the path were very good or the stream very sluggish.

But in ascending a stream when the boats were drawn by horses the progress would usually be much slower. It would then be advisable to move part of the infantry along the bank for the immediate protection of the horses and drivers. For a sudden attack, of even a small party of the enemy, may at any moment cause such loss amongst the latter as to temporarily suspend the movement.

Reconnoitring widely to the front and flanks becomes with a river convoy the more necessary, from the importance of engaging the enemy at some distance from the river-side. For should he be able to bring his artillery to bear on the boats and his rifles on the boatmen, the former may be sunk or may run ashore for want of guidance. Connecting files should be established between the farthest patrols and the river-side to rapidly convey intelligence.

If the enemy's approach be signalled the convoy should collect and draw towards the opposite bank, while the boats carrying the escort approached the other. If the alarm proves well founded the escort should land, keeping the boats at hand for re-embarkation if necessary, and the convoy be halted. If the enemy is beaten off, the previous order will be once more resumed. If on the other hand the escort is beaten, the convoy should endeavour to escape as best it can, and failing that, it should be sunk rather than surrendered. The escort will fall back to its boats fighting, and regain the convoy. If the attack were made from both banks the escort should divide to meet it.

The attack of a convoy by water would usually be effected by an ambush. Certain parts of every river afford favourable

opportunities for this, and it only remains to ascertain with some certainty the time the convoy will arrive there. Then success will almost entirely depend on secrecy. The attack would open with artillery fire on the leading boats and rifle fire on the boatmen. If the convoy is not brought to a stand, the attacking force must follow along the bank, still keeping up its fire. If the leading boats are disabled and surrender, the remainder will usually do likewise.



